# Gleanings in Bee Culture

February, 1947 Vol. 75, No. 2


## Early Spring Increase Pays Off

**How It's Done in California**

**By Clarence Tontz**

**In February the colonies were checked and the strongest ear-marked for increase.**

Popular among many western states beekeepers for making increase among their bees is the "screen nucleus" method. The method is simplicity in itself. It is a great time and labor saver. You make two colonies grow where only one grew before by splitting a strong colony in two by means of a frame having two layers of window screen nailed on it. (See Fig. 1.)

Although the method varies, the usual procedure is to select a strong colony and remove two frames of brood in all stages together with adhering bees. Place these in a super. Add two or three combs of sealed honey. Fill out the balance with empty combs or foundation. Place this super above the screen frame as shown in Fig. 2 (next page). Make sure the queen is below.

The nucleus on top is thus separated from the parent colony but is kept warm by heat rising up through the screen from the strong colony below. The bees in the nucleus will usually immediately start to raise themselves a queen. If everything goes well they will have themselves a mated queen in about a month. After the young queen has started laying the nucleus may be removed and placed on a new stand.

Last February 10 we made a few such nuclei which, aided by a fairly constant flow from eucalyptus, did


Entered as second class mail matter at Postoffice at Medina, Ohio. Published monthly. Subscription Price—1 year. $1.50; 2 years $2.25; 3 years, $3.00. Foreign, 25c additional.



B & Z Library

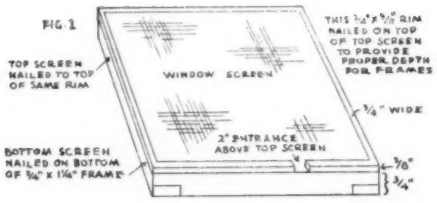
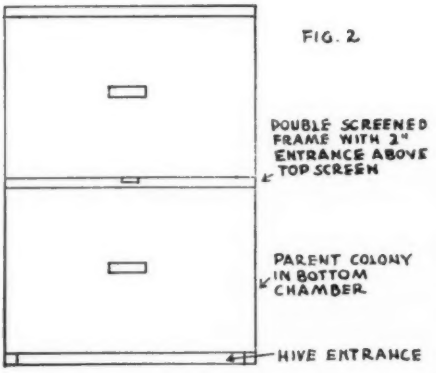


FIG. 1
TOP SCREEN NAILED TO TOP OF SAME RIM
WINDOW SCREEN
THIS ¾" x ⅜" RIM NAILED ON TOP OF TOP SCREEN TO PROVIDE PROPER DEPTH FOR FRAMES
¾" WIDE
2" ENTRANCE ABOVE TOP SCREEN
BOTTOM SCREEN NAILED ON BOTTOM OF ¾" x 1¼" FRAME
⅜"
¾"

**Type of nucleus screen used by R. I. Robinson Apiaries, Gooding, Idaho.**




well. A month later I checked them and found each nucleus had a young vigorous queen. Each nucleus was given a bottom board and cover and set off in a corner of the out-yard. I knew that a certain percentage of the bees from the nuclei would fly back to the old stands so I compensated for this by taking a frame of sealed brood (covered by baby bees) from the parent colony and giving it to each nucleus. Then from each strong colony I made a second nucleus. This was on March 10 of the same year. This second set of nuclei turned out well, too.

On one strong colony and the two nuclei made from it I decided to keep a record. The parent colony produced around 100 pounds of surplus honey from eucalyptus and orange. The two nuclei together produced around 50 pounds of surplus honey from the orange. They were slowed down a bit by having to draw out foundation. At the end of the orange flow around May 5 I had three strong colonies where I had only one before. They produced a total of 150 pounds of surplus (mostly orange) honey. They had drawn out several supers of foundation into fine combs. Had the alfalfa in the particular location to which they were taken come through with any kind of flow the total yield of a single colony in February would have been pleasing indeed.

Before anyone gets out the old pencil and begins to figure how he will make a killing by dividing his colonies I would like to list some drawbacks you will encounter and precautions you must take to insure a fair percentage of matings of the new queens in the nuclei.

Remember February is pretty early in the year even in California to expect a high percentage of successful matings of the virgin queens. There should be a fairly steady flow on to stimulate queen rearing and subsequent mating. If the flow cuts off feed sugar syrup. Ants are liable to attack the nucleus while it is trying to get started. Use ant repellents in extreme cases. But there is one thing about this screen nucleus method that makes it popular. If the nucleus is a flop you simply pull out the screen and the two colonies are one again. There is no fighting because they have the same colony odor

This past summer around the latter part of August I used this method to make increase among a yard of bees located on wild buckwheat. The buckwheat was about to come to a close but there was still some dribbling in each day. In making the divide I didn't bother to find the queen. I simply inserted the screen between the two brood chambers. However, I did make sure that each chamber contained young larvae so that wherever the queen might be, each section would have the material with which to rear a queen. Around 85 per cent of the nuclei reared and bred a queen. In view of the small amount of work required, this was a satisfactory gain.

When I first started dividing these colonies I was afraid the percentage of those willing to build queen cells would be low. However, I was agreeably surprised. One colony had built 17 fine cells.

Anyone who has read bee literature will agree that there are numerous ways to make artificial in-

**Bees in mountain locations such as this are usually about a month behind bees in the valley in the spring. However, once wild flowers start blossoming these mountain colonies build up in a surprisingly short time. In my locality February increase in the mountains is out of the question.**

crease among bees. It is said by some that simply dividing a colony and setting one unit aside to rear its own queen is inefficient and costly. This is true if the honey flow is rapidly approaching. But in some cases there is no hurry.

The average beekeeper in order to have a young queen for each nucleus must either buy these queens or have a queen rearing set-up. This takes a lot of extra time and know-how. Personally, my specialty is producing honey. With the screen nucleus method of increase I get additional colonies of bees headed by young queens. This with a minimum of time. During the busy season a commercial beekeeper's time can easily be worth several hundred dollars in one day.

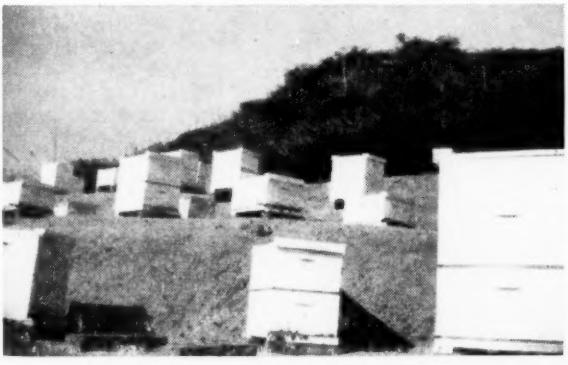
Lastly, I would like to say that I do not necessarily think this is the best method of increase. I haven't tried them all yet. I will say that the method of taking a couple frames of brood with adhering bees and ripe cells from a strong swarm-bent colony and putting these frames in a 3 or 4 frame nucleus box just before the honey flow will insure some fine nuclei with a high percentage of matings among the young queens.*

However, the screen nucleus method is a dandy **early** spring and fall method of not only recuperating your losses but for increasing your colonies. The important thing is that you fit your method of increase to suit your particular climatic region.

California.

*This method taken up in October 1946 Gleanings, page 532.

[In making increase or dividing strong colonies in time for the main flow, we have to make sure there is enough time, after colonies are divided, for the divisions to build up into colonies sufficiently populous in bees to store the maximum crop. Expert management is required for best results.—**Ed.**]



**An ideal location for early increase. Last year this yard was busy from December 1st to March on eucalyptus, an early blooming citrus. On December 5th they had on an average of 5 to 6 frames of brood.**

# A Bottom-Board-Cover Effects a Saving

**By Arnold Werner**

In the spring of 1944 we were faced with the necessity of quickly securing some 200 more covers and bottom boards. We had orders to move all of our 300 colonies which had previously remained all the year on clover location stands, one month hence, into fruit orchards. For many of our colonies we had no other covers or bottom boards than those forming part of our single packing cases. These measured some 2½ x 3 feet and could not be economically moved into and out of fruit orchards with colonies.

The article by Mr. Birch in January 1946 Gleanings, page 20, induced me to pass on to you what we had previously tested for two years. The need described above, possession of a power saw with rip, cross, and dado fittings, and difficulty in getting materials through usual channels brought our own bottom-board-cover into being.

Shortage of both time and money demanded that we secure 200 covers quickly and cheaply. We had on hand some 6" D. 4. S. ¾" thick white pine lumber. We purchased siding nails because they were more slender than the usual 2½". We also purchased standard ¾" tongue and grooved 4" white pine flooring. All our lumber cost at the rate of $94 per M. Our 200 bottom-board-covers were made for an outlay of $50. Standard metal covers would have cost $250 plus more labor.

**Fig. 1** shows on the right some shiplap made into a bottom board cover. I do not think it makes up so well as tongue-and-grooved narrower boards. This right hand board with its two part entrance reducer has a history. You notice it has been burned. Some lads visited one of our yards with a desire for honey for supper and imitating a beekeeper in the use of smoke they succeeded in getting from a hive a tough old brood comb one would not have offered them as a gift. The cost of their meal was five good colonies, some with their crop still in them. The standard bottom board on the left was used as a feeder board. A reducer was used in its lower entrance. Also it was used inside a quadruple case. Why I bored so many holes in it I do not now know. I do remember having the intention of filling them with calking compound. At any rate, there was evidence that I found the need in 1942 for more feeder boards than I possessed, and pressed a bottom board into service.

**Fig. No. 2** shows how adaptable these bottom-board-covers with only one recessed surface may be. Both bottom-board-covers shown here were made of tongue-and-groove material. The one used as a bottom board is not perforated. It has been left the usual 22½" long, though for many reasons, having used these for three seasons, I could wish they were all cut off 20" long like the one between the deep and the shallow. The only valid reason for leaving them long is that one does not need to place stones or blocks between hives when moving bees, to insure bees getting air when piled on a truck platform close as possible to one another. In the shorter, one large 3" hole has been bored and covered by zinc excluder metal. We have tried these extensively as a substitute for more expensive queen excluders. Having once purchased the rather expensive expansive bit shown in the brace, one is equipped if he has plenty of elbow grease or a drill press, to turn them out in large numbers. During a honey flow this device works well for separating two queens within the one hive. In the absence of a flow it works better with no perforation. Note that I prepared to back out if I found I had set a trap for myself and fallen into it; the nail on the edge within the white rectangle is only partially driven "home".

**Fig. No. 3** shows feeding in its simplest form. Two half inch holes which can scarcely be seen in the picture have in practice been found to be enough beneath an eight pound pail of feed to permit a strong colony a route to the syrup. A weak colony had better have a metal cover or be united until it is strong. These covers are sufficiently waterproof for strong colonies in warm weather. They use propolis freely enough to take care of leaks in their roof. A weak colony in cooler weather may not move upward through two tiny holes. They had better be fed with

the pail directly over their cluster and surrounded by newspaper packing or a standard feeder board and empty super around the pail. Notice that standard tapered corks purchased at a drug store, $7 for 1500, plug the holes tightly when feeder pail is removed.

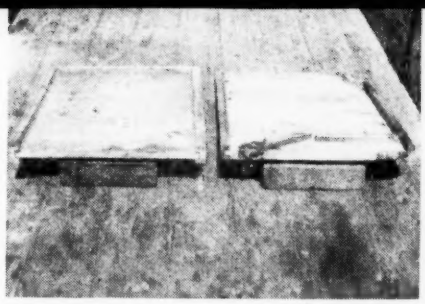


Fig. No. 1

**Fig. No. 4** shows what may be done in making increase and in controlling swarming, when one has bottom-board covers.

Suppose it is July 1 in Canada or July 4 in U. S. A. Your family is expecting you to go for a trip, but you know it will cost you real money if the bees swarm when you are away. Very quickly without having a family row, you may cut colonies with cells in two by simply inserting bottom-board-covers (and probably empty supers). You do not have to establish a new stand. With more leisure you may find the old queen. With a few frames of brood she may be put above a bottom board-cover and her entrance

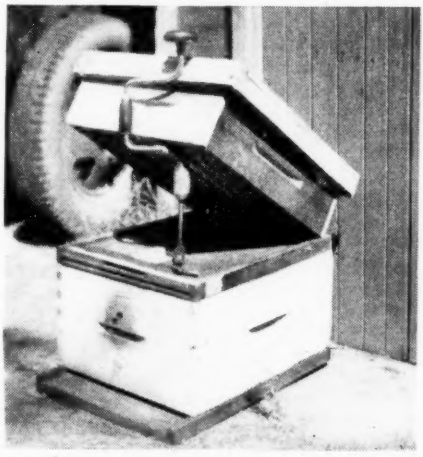


Fig. No. 2

turned toward the back of the hive.

**Suppose you want increase** and do not mind the risk of increasing the tendency to swarm; you may divide your brood as often as queen cells permit. If your virgin should not hatch or mate, the bees are automatically returned to the same stand as you pull out your bottom board-covers.

To insure a maximum crop of light honey I have developed the habit of returning the old queen to her original hive after a holiday of nine days' duration. At the time

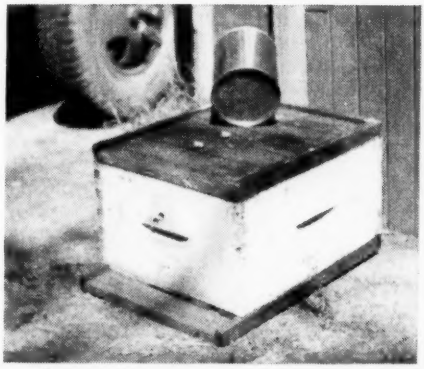


Fig. No. 3

she is returned to the strong original group I usually place a ripe cell with the young brood and bees where she has spent her holiday. To leave the stronger honey producing group 18 or 20 days without eggs being layed in their brood combs is, I fancy, too depleting. Later when a young queen is laying I may replace the old queen if she has not settled down happily.

That is the end of the story concerning bottom-board covers.

**Fig. No. 2,** however, shows two

(Continued on page 121)

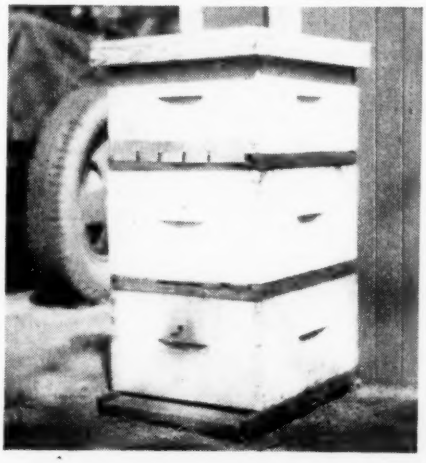


Fig. No. 4

# Useful Home-made "Gadgets"

**By C. H. Pease**

There are some things very helpful to beekeepers, not listed in the supply catalogs, that can be made by anyone having ordinary intelligence and with common tools that should be in all households, and especially in the beekeeper's workshop. Here are a half dozen things that add materially to my joy of beekeeping, and I didn't buy one of them:

**A Useful Rim.** One of the handiest and almost indispensible things in my equipment, and one that is put to a variety of uses, is a set of "rims" 16 x 20" outside, made of strips one quarter inch thick by three quarters inch wide, two layers fastened together securely with small nails, clinched. The object of making the rims double thick is for added strength, especially at the corners which are lapped, making a reinforced joint. When making the rims they will be more rigid and stronger if a little liquid glue is put into the corner joints; or a three-corner brace cut from sheet tin, zinc, or galvanized iron nailed with very small nails will make it still stronger.

At one end of the rim the strips are not nailed together for a space of six inches in the middle, except with one nail exactly in the center. At about three inches either side of the center brad one of the strips is cut in two so that it forms a little door six inches long, swinging on the middle pivot. This is for use as an open entrance when the rim is used under a top super separated with an inner cover from the colony below for the rearing and mating of young queens. When used where the open entrance is not wanted, as, for instance, in uniting colonies to hold the paper from blowing off the lower hive until the other hive can be put on, the little door is closed. When introducing a queen in a cage that is laid on top of the frames one of these rims raises the cover (or supers) over the top of the cage. The rims can be made more substantial by using three thicknesses with the entrance door in the middle, if preferred.

**Drone Trap.** This is not a queen and drone trap but strictly a drone trap. By adding a removable back (or door) to the open side of a regular entrance guard (it costs less than a quarter) you have one of the finest "gadgets" for getting rid of drones when shaking bees off frames. The added back consists of a piece of thin wood the exact size of the outside dimension of the open end of the guard; a blind staple driven in the bottom edge of the guard about an inch from either end and a small brad in the edge of the new back at the right distance to engage the staples, may act as improvised hinges, or small hinges can be used. To fasten the door shut a common screw eye in the middle at the top edge of the guard will hold the door shut when turned down and release it when turned horizontal.

In use, the trap is placed at the entrance of the hive with the door off and the wire excluder side in. As the bees are shaken they will start going back into the hive; the workers go through but the drones can't. When the shaking is done, close the door, take the trap off and leave it on the ground in front of the hive. The drones will be dead in a day or two. In some cases, when drones are numerous, it is necessary to use two traps; when the first one is full take it off and put on another. Be sure to keep the queen out of the trap.

To satisfy my curiosity as to what these traps do, I "kept tabs" on two colonies in which the drones had increased because my time for examining them was overdue on account of bad weather. I shook the frames in front of the hives and when one trap was filled I took it off and replaced it with another. When the job was done the second trap was closed, removed and left on the ground in front of the hive. After the drones had died the next day I counted the corpses. Those traps in this one operation took from those two colonies more than 900 drones (476 from one and 438 from the other) and not only relieved some of the congestion in the hives but stopped the feeding of that army of "lazy bums". I have never believed that it pays to feed useless drones.

**My Improved Bottom Board.** With

the hive bottoms as put out by the supply dealers the hives and supers must either stand leaning forward or the bottoms must stand level, which makes no provision for draining out rain water or moisture from inside, and this is not good for the bees, especially in cold weather. Although the hives and supers should stand exactly level, especially for feeding through the inner covers, the bottoms should pitch down towards the front to drain out rain and moisture. To accomplish this I made two wedge shaped strips 20 inches long, three quarters inch square at one end and tapered down to nothing at the other end, for each hive. These strips are nailed on top of the sides of the bottom board with the thick end in front to line exactly with the hive body, and as the concrete hive stands are set three quarters of an inch lower in front, but exactly level sideways, the floor of the hive has good drainage while the hive and supers stand exactly level, as they should. Another advantage gained from this idea is the larger entrance, admitting twice as much ventilation during hot weather. Of course, larger entrance blocks were made for reducing the entrance during cold weather, but this was a small job and will never have to be done again.

**Indestructible Hive Stands**. Reinforced concrete never rots, and my stands are made exactly to fit the ten-frame bottoms. They are six inches high with a slanting front, hollow in the middle, and with about a six inch wide bottom rim at the base for solid bearing on the ground. When placed on solid ground exactly level sideways with the front three quarters of an inch lower than the back (to drain out rain and moisture) there is no danger of hives tipping over when stacked up and heavily loaded, as the hive and supers stand level. By making a wooden form it's a good winter job to fill it with concrete and turn out the stands one a day.

**Hive Weights.** These are also made of concrete with stones buried inside. They are flat on the bottom with a circular wooden base and a rounded top. A strong wire loop forms a handle, with the wire extending down through the bottom, clinched and countersunk under the wooden base to prevent scratching

**The above shows the concrete hive stand, the wedges that make the bottom shed water while the hive and supers stand level, and the big open entrance; also the concrete weight.**

the hive cover. The base is eight inches in diameter, the height is five inches, and the weight nine pounds. During the cyclone of 1938 not one cover blew off.

**This is Not a Gadget,** but a maker of gadgets. Every beekeeper should have a workshop equipped with a good variety of tools where all sorts of things can be made, bee material repaired, painted, and much winter work done in preparation for the spring and summer rush when you will not have time to do it—and think of the fun working at the bench while the blizzards bliz outside. My workshop is in the basement of my house, near the oil-burning steam heater, with good light, and in addition, a stove for burning wood and rubbish—it's a comfortable and profitable "gadget foundry". The bee cellar and vegetable compartment are in the rear, partitioned off from each other and the main warm basement.

Connecticut.

# Greetings From Dr. Rousseau

[Dr. Rousseau, having completed his extensive trip in the United States (see Gleanings of September, 1946) reached home late in November. In the following gracious message he gives his impressions of the trip and also tells of some of the grave problems facing the industry in France. Lest it appear to our younger readers that American foulbrood originated in America it should be stated that both types of brood disease existed on both sides of the Atlantic Ocean.—Ed.]

It is indeed a great pleasure, for a Frenchman, to express to all Americans (not only to those he met but also to all whom he wished he could have met) the happiness and enthusiasm which he felt upon being welcomed so warmly everywhere along his journey.

I am grateful to Mr. H. H. Root to have offered me the opportunity to tell here of my great satisfaction and my thankfulness to those responsible for that wonderful reception.

I arrived in France with the remembrance of a very interesting tour. After travelling through Canada—all too rapidly—I have visited in the U. S. many beekeepers, the two great plants of Root and Dadant, and all the staff of the "Division of Bee Culture", from the Departments of Agriculture in the following States: New York, Ohio, Wisconsin, Minnesota, Iowa, Wyoming, California, Illinois, Louisiana, Alabama, Georgia, Florida, and South Carolina. This large program was planned by Mr. J. I. Hambleton, went on as smoothly as possible, thanks to the careful study and efforts of its author. I also send thanks to the kindness of all the persons who were in charge at each stop.

This enabled me to appreciate the worth of the scientists, technicians, and beekeepers. Research on bee diseases, their prevention, their treatment, artificial insemination, selection, feeding of pollen and starches, preparation and packing of honey, fabrication of foundation wax, raising of queens, shipping of bees, etc.—all these questions and many others came vividly to my attention. I must add that I was equally glad to see some moving pictures. They showed clearly certain happenings which I could not have observed otherwise during the current season. These moving pictures were all very good; among them I have noticed actual little marvels,

**Dr. and Mrs. Maurice Rousseau**

particularly Mr. Root's which show scenes of bee life and pollination.

It is with the greatest confidence that I pass all this rich documentation on to the French beekeepers. None of them ignore American bee culture, many of them are acquainted with Americans; some of them have even visited the States. Thus it is in an atmosphere of great friendship toward America that I disseminate with so much pleasure the information that the French beekeepers are anxious to hear.

Many of these techniques and practices are known in France and sometimes they are applied. But it must be said that French bee culture —the origin of which is lost in the might of history—has kept the old traditions; it does not know, as they do in the U. S., about the generalization of methods in all regions.

Educating beekeepers by means of moving pictures has been done on a very small scale, since owing to lack of materials only a few films have been made. Moreover, during the last six years, when French territory has lived under war conditions, all the necessary care has not been given to the bettering of bee culture and varied destructions have brought the situation from bad to worse.

These destructions caused by the war are two kinds:

1st. The direct destructions because of bombardments, battles, and the pillaging of armies.

2nd. The indirect destructions be-

cause of the increase of diseases. The latter spread all the more easily because many small hives came into being in order to alleviate, in a small way, the food shortage. Through lack of material, the new beekeepers utilized the old abandoned bee hives, some of which had been contaminated. Such hives were mainly affected by the American foulbrood. That is why new sources of infection were developed without a chance for sanitary overseeing or instruction to the beginner beekeepers; now, entire enterprises are contaminated.

In view of such a situation it is easy to understand the desire from the part of the French beekeeper to reconstitute a healthy and productive apiary.

The first big undertaking is the purification of the hives; next will naturally come the production of honey. The cleaning demands certain measures which are difficult to apply in a country such as France, when resources have been almost totally exhausted.

The American beekeeper knows that the usual treatment against foulbrood is fire.

That treatment offers the advantage of being quick and safe since it causes the certain disappearance of all germs.

However, if such a course is taken, a reduction of the number of hives ensues, unless it is possible to secure a replacement of material thus destroyed.

In France there is such a wide spread of disease over so many apiaries that it would mean an almost total disappearance of too great a part of the bee supplies; it would be impossible to replace them, considering the low production of queens and the lack of wood and small articles necessary to the hive.

Consequently, we must use the "shaking method" which allows the recuperating of the colony and later the disinfecting of the hive, in order to conserve material. Such operations are long and tedious; they are only performed on hives which are in very good condition and in which bees are strong. Others are destroyed by fire in spite of the difficulties of material replacement.

Since last year, experiments have been made with a new treatment—that of sulfathiazole. Some experiments which were first tried on the laboratories' hives have been this year brought to regions where the American foulbrood is predominant. One must wait until next year to judge the results and several years will be necessary, I believe, to be sure of the absolute efficiency of that method. The experiments made in the U. S. seem to have given good results and it has made me very happy to see them for myself so I could uphold the hope we might have in this method of treatment which is more economical than those we have used so far.

Enriched by American experience in all the domains of bee culture improvements, I shall strive to give the benefit of it to my country.

I wish that in a few years all the Americans who received us so well would come over here and see for themselves the improvements made in bee culture and the warm reception awaiting them in France. Until then, I intend to learn their language well and if I cannot use it during another trip to the U. S., at least I shall be happy to put it to good use to help my American friends when they come over to France.

In the meanwhile, Mrs. Rousseau and I shall keep the good connections which we have made in the new continent; we shall not forget the demonstrations of friendship which were given to us and we shall continue to tighten the ties which unite the American and French beekeepers.

### Correction In Statement

In the December issue of Gleanings in Bee Culture in my article "How Valuable is the Drone?" I made the statement about the inbreeding of chickens carried on by the Kansas Experiment Station. This statement was given to me two years ago by a poultry breeder and at that time I thought it was true, but since my article was published in Gleanings in Bee Culture I find this statement to be erroneous and misleading and that the Kansas State Experiment Station did not carry on such an experiment. For this incorrect statement I apologize to the Kansas State Experiment Station.—M. E. Oplinger.

# February is the Party Month

**By Mrs. Benj. Nielsen**

**Honey Cherry Cobbler.—Photo courtesy Kellogg Co.**

Though it is the shortest month in the year, February does afford the most excuses for having parties, having as it were the birthdays of two famous men, with Valentine thrown in for good measure. We have been conservative for so long why not go on a real spree and have a party this month—a real dressed up party!

Before we get down to teaspoons and cups, here is an easy-to-prepare breakfast idea for Valentine morning. Prepare a pink meated grapefruit in the usual way but spread with your favorite honey. Chill thoroughly. Then in the center place two or three delicate green grapes. If you care to be real fancy, serve on a lace paper doily.

**Honey Cherry Cobbler**

One-fourth cup bran, 1½ cups sifted flour, ½ teaspoon salt, ½ cup shortening, 4 tablespoons cold water, 4 cups canned sour cherries, ¼ teaspoon almond flavoring, ⅔ cup honey, and 5 tablespoons flour.

Crush bran into fine crumbs; combine with flour and salt. Cut in shortening. Add water, a little at a time, until dough is moist enough to hold together. Roll out on lightly floured board into rectangular shape about one-eighth inch in thickness. Trim two inch strips from length and width of pastry. Use trimming to line sides and ends of rectangular baking dish, placing uneven edge of pastry down and allowing about 1 inch hangover at top for fluting. Combine cherries, flavoring, honey, and flour; pour into baking dish. Cut a design from center of remaining pastry. Place on cherries. Seal edges of pastry by fluting sides and top together. Bake in hot oven, 450 degrees F. 15 minutes. ; reduce heat to 350 degrees F. and continue baking about 35 minutes. Yield: 6-8 servings. (6 x 9½-inch dish.)

**Honey Lincoln Logs**

One half cup shortening, 1 teaspoon salt, 1½ teaspoons soda, 2 cups sifted flour, 1¼ cups honey, ⅔ cup water, 1 teaspoon vanilla, 2 eggs, unbeaten, and 2½ squares unsweetened chocolate, melted.

Mix shortening enough to soften, Sift in dry ingredients. Add ½ cup of the liquid and the eggs. Mix until all flour is dampened; then beat one minute. Add remaining liquid and melted chocolate; blend and beat two minutes longer. Batter will be thin. Turn batter into greased pan. Bake in moderate oven, 350 degrees F., about 40 minutes. When cool cut in strips to simulate logs. Then coat with cocoa flavored confectioner's sugar icing and rough with the tines of a fork to make it resemble bark.

**Honey Cherry Ice Cream Valentines**

Drain 1 can of pitted red sour cherries thoroughly. Soften an envelope of unflavored gelatin in ¼ cup cold water. Then cook 1 cup cherry juice and ⅔ cup honey to a thick syrup. Pour in a fine stream on 4 egg whites, beaten stiff but not dry, beating constantly. Dissolve the softened gelatin over hot water and fold into the egg white mixture. Cool until mixture begins to thicken. Then fold in two cups heavy cream, beaten stiff, and 2 teaspoons lemon juice. Add cherry pulp which has been put through a food chopper. Pour into one large or two small freezing trays. Set refrigerator up to coldest position. Freeze until firm without stirring. Then warm bottom of tray very slightly by using a cloth wrung out of hot water. Turn ice cream out on waxed paper. Cut out quickly with heart-shaped cutter. Return hearts to freezing tray keeping some distance apart. Ice cream left from cutouts can be put in another freezing tray. After about half an hour's rechilling, pipe honey sweetened whipped cream around the edges of the frozen hearts. Refreeze another hour or so.

# A Word of Caution on the Use of Sulfathiazole

By J. I. Hambleton

Division of Bee Culture, United States Department of Agriculture
Bureau of Entomology and Plant Quarantine, Beltsville, Md., Dec. 20,1946.

A wave of enthusiasm is sweeping the country with respect to the use of sulfathiazole for treating colonies infected with American foulbrood—some infer that the person who fails to recognize the economic emancipation from disease which the drug seemingly offers is a back number—one almost intentionally blocking progress. Many are extolling the magic of sulfathiazole and advocating its widespread use.

Certainly sulfathiazole is the most promising medicant for treating AFB that has appeared. All visible evidence of disease often disappears in a treated colony for a time at least, or the amount of infection is noticeably reduced. Those who are working with the drug and trying to determine its real function in disease control are to be commended. On the other hand a word of caution is justified inasmuch as many workers are being carried away in headlong enthusiasm and are giving, in many instances, unqualified recommendation to this new means of allegedly ridding apiaries of an age-old scourge.

The mode of action of sulfathiazole in reducing disease in a colony is not known. Advocates of the use of the drug ask "What is the difference so long as it works?" With honey at 35 cents a pound wholesale, bee supplies relatively difficult to obtain, and sugar not too hard to procure, the stage is psychologically set to salvage infected colonies.

There is much to be learned about the use of the drug not the least of which is the amount of dependence that can be placed on the disappearance of visual evidence of disease. Time enough has not elapsed for anyone to pass final judgment on this point.

The drug is not a disinfectant, and cannot possibly destroy the spores that are hidden away in the hive where they may remain dormant and potentially dangerous for a matter of years. Any method short of burning must take these hidden spores into consideration. The shaking treatment for AFB is basically more sound in principle as a means of treating the disease, since it seeks to remove such spores, than is the feeding of a drug or chemical. Drug feeding may remove all evidence of visible disease, but it must be largely accidental or a matter of chance, or of the existence of uncontrolled conditions within the hive, if all spores, disease in its invisible form are destroyed.

Beekeepers have had such startling satisfactory results that it is only natural for them to conclude that treated colonies are permanently cured. Many experienced and successful beekeepers have been found to be unaware of the longevity of the spores or of the minute amount needed to infect a colony. Some have said, "Suppose disease does reappear in a few colonies, another dose will fix them". On this basis, after a year or so following treatment equipment can be interchanged freely and safely. This is not only the popular trend in arguing the case—and a scientific question cannot be settled by argumentation—but already cases are being recorded where the treatment is backfiring with serious results.

In our opinion commercial beekeepers are taking grave chances in depending on a drug to solve their disease problem. Carelessness can well result in contaminating an entire apiary where relatively little disease existed before and which was cheaply controlled by burning. Word comes from a State where a large commercial beekeeper who was relying on sulfathiazole not only increased the number of infected colonies in his own apiaries, but was directly responsible for spreading the disease in his county to an extent that more new cases of disease developed in that one county than in the whole State.

The routine feeding of sulfathiazole to a large number of colonies annually could quickly surpass in cost our annual bill for burning. Colonies highly susceptible to AFB would be perpetuated. If feeding the drug becomes a common practice sooner or later the bee industry will tangle with the food and drug officials even though it is unlikely that dangerous amounts of the drug will find their way into commercial

(Continued on page 123)

# Honey Poisoning

**By W. Ray Jones, M. D.**

Honey poisoning is almost as old as history records. Modern science has divided the toxic effects caused by partaking of moderate amounts into two groups. One is an allergy and the other caused by a real poison in the honey itself.

The allergic symptoms are an acute gastro intestinal pain, later a vague abdominal distress and probably vomiting with negligible real systemic symptoms. People allergic to certain honey commonly say, "I like honey but honey doesn't like me". Persons affected thusly are really allergic to the plant from which the nectar or possible contaminating pollen grains came. Repeatedly have I found people unable to eat Illinois honey who could partake of Puget Sound fireweed honey with impunity.

**Local Reacting Poisons**

The only really poisonous honey is that made from plants whose secretions contain the toxins. Many and varied are such plants and poisons, consequently varied symptoms are produced. Cascara honey, among others, has a laxative effect like the medicinal decoctions made from its bark. Cascara honey resembles that black bitter medicine, both in taste and appearance, hence is unimportant for table use. Several other honeys from medicinal plants contain small quantities of drugs. They are grown in such small quantities, however, as to be of negligible importance.

**Systemic Poisonous Plants**

During the past ten years I have had occasion to study an epidemic of really serious poisoning from honey gathered in several areas of the Puget Sound country. The most toxic honey came from one certain apiary in the Cascade foothills. In this vicinity mountain laurel has gotten out of cultivation and some swamp laurel grows naturally. Some mildly toxic has been reported as coming from the native rhododendron country on the east shores of the Olympic peninsula. Local nurseries are recommending rhododendrons and mountain laurel (**Kalin Latafolia**) for ornamental planting. Beekeepers might advantageously be alert. The mountain laurel is a

**Mountain laurel.—Photo by Paul Hadley.**

broad leaf evergreen growing up to ten feet. It bears clusters of beautiful purple to whitish bell shaped flowers in May and June. It grows only on acid soil, and prefers a sandy moist protected area. The sheep laurel grows up to three feet, and swamp laurel but half as tall. Appearance of all three is quite similar. All the laurels are closely related to the azelias and rhododendrons. These flowers resemble the hot house oleander.

**The Toxic Principle**

The toxin (**andromedotoxin**) produced by these plants is a colorless, odorless, and tasteless glucoside. It is of high molecular weight, soluble in water, alcohol, chloroform, and ether, but insoluble in benzine. Chloroform is the favorite soluent for extracting it from honey for study purposes. The toxicity factor is 0.25 - 0.30 m.g. per kilo of dog or rabbit (Merk's Index). It is formed not only in the nectaries but is also contained in the leaves of the laurels and rhododendrons.

### Symptoms of Poisoning

These have varied in severity from a mere tingling in the skin to almost death. No two persons reacted exactly alike, yet they did enough so as to be recognized as suffering from a common causative agent. Shortly after eating, within a few minutes to two hours the person felt a tingling and numbness in the extremities and lost consciousness, sometimes but momentarily and others for several hours. The pulse weakened to imperceptability and went down to 50 to even 30. The face turned ghastly blue so characteristic of a heart attack but without anginal pain. A cold sweat appeared. These symptoms lasted from a few minutes to four or five hours. Usually there was no nausea or other gastro-intestinal symptoms. Recovery was complete within from a half to 12 hours, usually 6 or 8, except for a numbness or a tingling in the skin of the extremities.

The Seattle Health Department Chemist in testing one lot of honey could find nothing unusual so he tasted about a desert spoonful of it. About two hours later he found himself on the laboratory floor, with that numbness and weakness and no remembrances of what had happened after his partaking.

Dogs which ate the honey behaved like drunks with staggers and finally went into what resembled a dead drunk and finally comatose stage. They recovered within ten hours.

### Adverse Honey Publicity Avoided

Fortunately bees do not work rhododendrons or the laurels if other nectars are plentiful. All concerned with these cases of acute poisoning have been cooperative in studying it and avoiding adverse newspaper publicity for honey. Having a beekeeper epidemiologist in the Washington State Department of Health at the time may have helped. Among those others cooperating are included: The physician seeing most of the cases, the merchants who sold the honey, the state and city health departments which fastened the blame, and farmers who produced the honey. All the honey having any chance of being contaminated or traced to a common source as that found toxic was simply and quietly made way with. The matter hardly got into neighborhood gossip, though at least a dozen cases of severe poisoning have been found and some of these were nearly fatal.

Washington.

**This honey eating young son of Arthur Lose, Louisville, Ky., bids fair to become a B-29 model by the time he grows up. Already a bee man, he apparently preaches what he practices. May he continue to have perfect health!**

# Annotations

By Prof. A. Z. Abushady
United Nations, N. Y.

**Quarantine Examination of Honey**—My Egyptian colleagues are scared by the exportation to Egypt of honey from countries suffering from foulbrood. The economic factor does not enter into their fears, since the quantity imported by Egypt is quite limited. Their concern is to maintain the fortunately clean health bill of Egyptian apiaries. Some are suggesting the quarantine examination of honey in the manner that fruits and vegetables are examined. The examination cannot be done and no real comparison exists. No ordinarily infected honey is an appreciable emulsion of AFB spores. Even by centrifugalization, laboratory examination is unsatisfactory and culture is out of the question. Bees carry the infection from honey through mass feeding or robbing, which might possibly happen in Egypt through confectioneries using imported honey in the making of high class tarts and pastries which are left unprotected to the endless visits of foraging bees. Far from objecting to their visits, such visits are encouraged and regarded as a living romantic tribute to the excellence of the tarts and pastries displayed! In the light of our present knowledge and experience, the only protective measure for Egypt is clearly to prohibit the importation of honey from infected countries.

**Alpine Carniolans in S. Rhodesia**—Comdr. A. Dane, R. N., of Bromley, S. Rhodesia, reminds me of the Strgar Alpine Carniolans which I recommended to him and to Capt. N. Turner ten years ago and which proved a great success. Now that breeding apiaries in Carniola have not yet recovered from the ravages of war, he is at a loss as from where to obtain pure Carniolans free of both acarine disease and AFB. The nearest source of supply to S. Rhodesia would be Egypt, but the supply there is limited owing to the big demand for them, so much that Egyptian breeders would not thank me for divulging their names and addresses! Recently the Cooperative Department of the Ministry of Social Affairs, Cairo, has inaugurated a Carniolan queen rearing apiary in the Suez area. Their queens are good, but the supply is rationed.

**Artificial Comb for Apis dorsata F.**—In view of the unusual absconding and migration of Apis dorsata owing to the attack of wax moths, may I recommend to my Indian colleagues who are interested in experimenting with this interesting bee, particularly with a view to its domestication, to contact Mr. Richard H. Dement of the U. S. Plywood Corp. at 55 W. 144th St., New York City. He has kindly supplied me with plywood hexagons suitable, in comb formation, for the breeding of this unique industrious bee. He has not been able, however, to provide me with plywood combs for our hive bees, owing to the comparatively small size of the cells required. Doubtless, this is also possible when we have the good fortune of interesting some enterprising concern.

**The Irish Bee Journal.**—We must welcome the issue or reissue of the "Irish Bee Journal", published by the Federation of Irish Beekeeping Associations. As some interested readers may well remember, the late Rev. Digges (a notable literary author on bee culture in his time) used to edit a similar monthly journal which ceased publication after his death. His "Practical Bee Guide" remains amongst the most popular guides on the other side. Its latest edition was ably revised by my friend, Mr. R. O. B. Manley, one of the leading bee farmers in Britain.

**Pollen Substitute.** — In the Near East, the addition of boiled milk to syrup for spring feeding is becoming popular in modern apiaries. The new American method of giving "artificial pollen" in the form of a mixture of dry yeast (1 part) and soy flour (6 parts) appears to be more scientific as well as more convenient. It provides the bees with the accessory factors needed for their healthy existence and breeding, until sources of natural pollen are available.

**Removing Honey with a "Chlorine Cloth".**—Those who rightly fear the tainting of honey by using the "Carbolic Cloth" will find the "Chlorine Cloth" (prepared in a similar manner by employing such a cheap American preparation as "Zonite" or a British preparation as "Milton")

( Continued on page 116)

# Live and Learn

**By Propolis Pete**

At this time of year, beginners fall into two general classes. Either they started last year but are still due for their initiation into bringing a colony from its winter-weakened condition to full gathering strength, or they are so green that they are still wondering how to get started at all.

Maybe we had better take care of the raw beginners. The one year old beekeepers at least should have absorbed some of the knowledge that they will need. The recruits are probably wondering what to do first.

**Well, before you do anything at all, make up your mind whether or not you really want to keep bees.** If you are going to just start them and let them lay, don't start. The bees and equipment that will be tied up in your venture can be put to good advantage by someone who really will make good use of it. But if you really mean it, and it is not just some half baked idea, the best first step is to get yourself a good bee book. Lots of old time beekeepers laugh at book-learning, but don't let that bother you. When you actually get into beekeeping you are going to find out, as we all do, that books and bees don't always agree. I wish I had a dollar for every time that I wished I could find out which book the bees studied. Nevertheless unless you know the fundamentals of theory, you are going to be plenty mystified when you see what is going on. Even though your studies may not gibe with your experiences, you will find that most of your experiences in some way gibe with your studies.

For me, half the fun of beekeeping is to recognize what I am seeing. The other half is the honey crop. You cannot imagine the thrill, after reading in the book about how the queen lays her eggs, to catch her in the act. You read about how the bees build their comb, and itch until you can see them doing it. You see pictures of the brood pattern with young bees in every stage from egg to emerging bee, then in your own hives watch the progress on each comb.

**I have found that constant monkeying with bees cuts down on the amount of honey that they gather,** but what the heck. The loss of the honey is more than made up with the anticipation each time I open a hive to see what progress has been made since the last time. And many is the time that I have opened a hive, taken out a frame of emerging brood, and kept that hive open, disorganized, and scattered over half the yard while I watch the bees gnaw their way into life. That's not good beekeeping, but why do we keep bees?

Getting back to February, if you are in the raw recruit class, get yourself a good bee book. Maybe it isn't good form to play teacher's pet, since the Roots are responsible for this being in print, but the best all around book for the start of your bee library is the ABC & XYZ. You can't read it like a story. It doesn't start at the beginning of beekeeping and read like a romance through the queen's love life and maternity. You have to skip around and take up each subject in the sequence necessary for a beginner in bees. Then, for recreation, you can read anything else that interests you.

**Find yourself a good beekeeping friend.** You won't be a nuisance, no matter how dumb your questions may be. I have never yet met a beekeeper who wouldn't be willing to talk about bees and himself until you tire first. And you can get a lot of good pointers about how to get your equipment and bees lined up. How can you find a beekeeper friend? Why, just find out where is the nearest society of beekeepers and join.

So that's the way to get started with bees. Get yourself a book and a friend. Better do it soon if you expect to keep bees in 1947. Time's awastin'. Stuff is pretty scarce, and if you want honey this year you have to get started in time. Neither bees nor flowers will wait for you.



**Siftings**

"Let's make more preparations for the good crops and thus be relieved of making so many excuses for the poor ones."

—John W. Holzberlein, Jr.

# Beekeeping in Palestine

"Land Flowing with Milk and Honey"

By Robert Blum

Old Hyypstram bee farm with author.

It is over 20 years since I left Moravian Switzerland, where bees were kept in nicely painted, tidy hives—just like little chapels, reminiscent of the Middle Ages. Since then I have occupied myself in apiculture in Palestine and have made myself familiar with honey production in the neighboring countries: Egypt, Syria, Cyprus, etc., which are certainly the cradle of apiculture. But in giving a survey of Palestine apiculture, it is only right to give at least a brief outline of its history. For this is a country which for some 3000 years has been known to mankind as a "land flowing with milk and honey".

Most books dealing with the history of apiculture mention the Holy Land as the first home of beekeeping. But many writers on the subject have put forward the view that the Jews of ancient times never actually dealt with bees and some biblical interpreters entirely unacquainted with bees have translated the word "dvash" (Hebrew for honey) met with in the Bible so frequently, not as "honey" but as some sweet syrup prepared from figs, dates, or grapes. This theory, in my view, is without foundation, and it has led me to conduct extensive researches into the subject as treated in ancient Hebrew literature—the Bible, Mishna, Gmara, Agada (Talmud). It is apparently the first time that a modern apiarist has undertaken such a task, a writer who has the advantage not only of knowing local conditions but also of being familiar with the Hebrew tongue, which renders him independent of sources of other authors and dictionaries that are not always reliable.

In ancient days there was of course no Suez Canal to hinder the easy movement of caravans between Egypt and Palestine. And even if the Israelites had not spent a long time in Egypt—in liberty and in slavery—it is hardly to be supposed that the extensive apicultural knowledge of the Egyptians was unknown to the inhabitants of a neighboring country, particularly as this country is so suitable for beekeeping, and where the population, as we know, had achieved a fairly high cultural level. A biblical description of Palestine as a land of bees is given in Deuteronomy Chap. 8, Verse 7,8:

> "For the Lord thy God bringeth thee into a good land, a land of brooks of water, of fountains and depths. springing forth in valleys and hills; a land of wheat and barley, and vines and fig trees and pomegranates; a land of olive trees and honey."

But even before Bible times (3800 years ago) the famous Egyptian writer Sinuhe* who fled from his country to Retenu (another name for Palestine) tells us that the district Jaa in which he lived "had figs, vineyards, more wine than water, rich with honey, oil, and all kinds of fruit on the trees".

The Jews were the first of the an-

*A. H. Gardiner. Paris 1916. Notes on the story of Sinuhe.

cient peoples who had some knowledge of the biology of the bee, unmixed with superstition and myths. We find in the literature of all ancient nations, even as late as a few centuries ago in Europe, many superstitious beliefs concerning bees. For instance, newly married couples used to stand before a beehive and wish for a prosperous union. A son of a deceased beekeeper used to come to the bee hives which he had inherited and beg the bees for their help and loyalty.

**"Deborah" in Hebrew means "bee".** Deborah is not only a common girl's name today but it was the name of Rebecca's nurse and also the name of the illustrious prophetess. It is obvious that the ancient Jews would not have chosen the bee as the name for a human person if they had not been familiar with it and held it in high esteem.

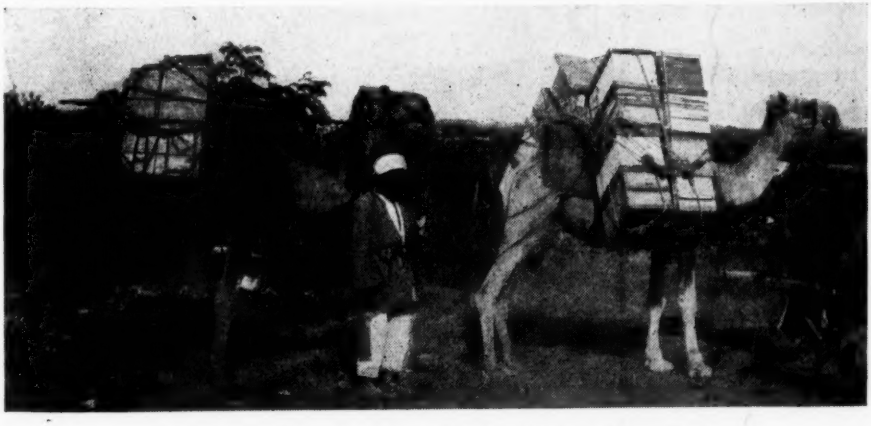
The hives used by the ancient Jews were made of straw or reeds. Some 20 years ago I transferred a bee family from a native (Arab) tinpipe in Galilee to a modern hive, and was not a little astonished to find a reed matting in the pipe because all the hives in the Orient are made only of clay. An old legend, whose source I was unable to trace, despite repeated search, tells of a hive made of glass owned by King Solomon. He had had the hive especially made in order to observe the life of the bees. The bees, however, covered the walls of the hive with wax, and the king's object was not achieved.

**The size of the old Jewish hives was 6 by 10 ells.** They stood partly in the doorway. This custom is still followed in Abyssinia. (It is known that close relations existed between Palestine and Abyssinia in the time of Solomon.) With the help of the fan they would drive smoke into the hives and "put water before the bees". The hives were covered with mats in order to keep them warm in winter and cool in summer. The ancient Jews used to leave two honeycombs in the hive in winter in order to sustain the bees.

Although the process of swarming was known to the ancient Greeks and Romans, I have not found in their literature any reference to methods of preventing it except the Latin poet Virgil, who recommended clipping the wings of the queens. It is possible that the ancient Jews paid more attention to the subject, as the local bee **(apis mellifica, var. Judaica)** has a very strong tendency to swarm as compared with other races. After the third swarm had left the hive they were accustomed to destroy the swarm cells. It is possible that this practice was adopted from the Egyptians.

But the last proof that beekeeping was extensively practiced in Palestine is the frequent mention of legislation affecting the handling of bees. For instance, we find that it was forbidden to place hives nearer than 50 ells from a town.

According to law, the owner of a swarm of bees had the right to enter the property of his neighbor and even cut off the branch on which they had lodged. Only if no one



**Transporting hives on camels' backs in Palestine—Photo by Philip Baldensperger.**

came to claim ownership the swarm of bees became his property.

**In the Bible honey is mentioned frequently as a food** and as a valuable present. It also occurs in poetry to represent the fertility and prosperity of the Land of Promise. Usually we find honey mentioned together with milk. In Biblical poetry we always find two parallel and equal values. And from the point of view of nutrition there is certainly no other food which can be compared with milk. Furthermore, if it is taken into consideration that almost all foods mentioned in the Bible, such as grapes, groundnuts, almonds, pomegranates, figs, olives, etc., are natural and primary foods, one can hardly accept the view of some Bible commentators who endeavor to find in the Biblical honey some artificial product made by human hands. The best proof that the honey mentioned in the Bible was a pure bee product is provided in the following law: "Who vows that he will not use honey, may use honey (syrup) made from dates".

The first time we hear the expression "honeycomb" **(dvash nakhot,** i. e. honey-wax) is in the biblical reference that Jacob sent to the ruler of Egypt a honeycomb as a gift. The book of Jeremiah mentions honey as a treasure, and for this ten Israelites were saved from the murderers of Ishmael. Quite frequently honey is mentioned as a medicine.

It is clear that in ancient Palestine. thousands of years ago, apiculture was carried on extensively on the basis of a good knowledge of this subject for the time. It is today difficult to estimate to what extent western countries like Greece and Rome, who were the teachers of the other countries of Europe, learned beekeeping from the ancient Jews.

**Ex Occidente Lux**

If the ancient proverb "ex oriente lux" also applies in some measure to beekeeping, then of the recent development of Palestine agriculture it may be said "ex occidente lux" (the light comes from the West.) Apart from some well preserved native pipe apiaries (in which the only management applied was to enter the swarm and take out the honey.) all hives used by Jewish settlers are modern ones based on the western system. Twenty-five years ago at the beginning of large scale colonization in Palestine, every immigrant beekeeper brought along with him the type of hive to which he was accustomed in his native country*, and I myself had made in those days in an old Jeruselem carpentery shop a type of hive which we used to use at Prof. L. Armbruster's Bee Institute. And so after some years we accumulated various collections of hives, but later when we were looking for a uniform hive best suited for Palestine, the American standard hive was selected.

Not long ago I myself carried hives from place to place by camelback but English crushers have laid good roads, and bees loaded on good American trucks no longer suffer from the unpleasant odor of the camels. Edison's power today operates honey extractors and enables some of the farmers of the Plain of Jezreel and Galilee to warm their hives in winter time so that their families are well prepared for the early orange blossom in the middle of March. Some of them yielded this year, 100 pounds of orange blossom honey per hive. But even without artificial warming the queen bee in this country does not stop laying eggs throughout the whole year.

**The climate of Palestine resembles that of California**, but the flora seems to be richer in this country. Rain falls only from November until April and the artificial irrigation during the remaining months ensures a rich honey blossom in this rainless period. And if the gigantic irrigation plan of the illustrious American hydrologist Walter Clay Lowdermilk† should be implemented, then the annual honey crop may reach many thousands of tons. At present we are only approaching the first thousand ton.

The local bee **(apis mellifica, var. Judiaca)** is light colored, slightly smaller than European races, swarms too often, and breeds too much, and not always at the proper time. For some time I have already pleaded for the replacement of the local bee by the Italian bee. Perhaps in the near future our American beekeeper friends will supply us in the space of two days by plane with the best selected Italian queens which produce those "large yellow gentle honey gatherers".

After many measurements of nat-

*In every European country there are many dozens of different types of hives.
†"Palestine, Land of Promise" (Gollancz).

ural combs I found that the local bee builds on 100 sq. cm. 50 cells more than the European races. But as we use normal foundations we shall be able after a few years to provide a classical proof as to whether the use of larger cells does in fact develop larger bees, according to Bandoux's theory.

**The main enemies of the bee in Palestine are the wasps (vaspa orientalis).** Some years ago I found Cyanogas as the best remedy for destroying these wasps and their brood. The prettily colored Biblical bird, **merops apiaster,** swallows many bees year after year. The only diseases which appear in Palestine are the European and American foulbrood. Legislation for the control and prevention of this disease is in force.

Owing to the warm climate, Palestine honey has a very low percentage of water. It has an excellent aroma and its color ranges from water white to dark red. The average honey crop per hive is about 40 lbs. but with good management much larger crops are obtained. Most of the honey is packed and sold by the Agricultural Marketing Cooperative, "Tnuva". Only a very small part of Palestine's honey sources are exploited at present, and the local honey industry is clearly in process of steady development. Its progress has, however, been interrupted during the war owing to shortage of timber. Sugar, too. has been in short supply during the war, and this has caused a great demand for honey. The prices obtained were therefore quite satisfactory.

The experience acquired hitherto, though short, holds out good prospects for the future, though they depend to a large extent on the fulfillment of some political demands, such as free immigration into Palestine. If this demand is met, then our future beekeepers will have the historic task of making the Holy Land once again "the land flowing with honey".

Givatayim, Palestine.

**This picture was taken in May, 1946, on a cloudy day at 6:15 P. M. in a small apiary near Medina. The five swarms in the plum tree were all hived.**

# From the Field of Experience

## Laying Workers and Drone-Laying Queens

**By Allen Latham**

For years I never saw a case of laying workers, and after I had kept bees nearly 20 years I did not believe that there were laying workers. I had an idea that so-called cases of laying workers were really cases of drone-laying queens. But during the first decade of this century I had my first case of laying workers.

Apparently some strains of bees are prone to furnish laying workers under the right conditions, while other strains scarcely ever, possibly never, have laying workers. I never saw it in the case of black bees nor with my first strains of Italians, but when I acquired another strain I began to see laying workers under certain conditions.

For aught we know there may be laying workers even in normal colonies, since one cannot say that a drone cell is of necessity from the reigning queen. But when a colony is without a queen for two or three weeks, often longer, drone brood is then sure to be from laying workers. Finding cells with from a few to 20 or more eggs in the bottoms is a fairly sure symptom.

There is one thing I do know. When a colony is badly infested with laying workers it will not pay to try to save that colony. In the first place, there are only old bees of little value, and adding more bees and a queen entails a loss more often than it yields any profit. In a few days the queen has usually disappeared and the colony is just the way it was. It is far better to destroy these bees and then give the hive a pound or so of good bees with a queen.

Queens which lay mostly drone-producing eggs come about in more than one way. A very common source of a drone layer is the failure of the old queen in the winter months or very early spring. The bees rear a virgin, but by the time that virgin is too old to mate no drones are ready, hence she is a drone layer. I find several such queens some springs and rarely fail to find one or two every spring.

Sometimes a queen is reared above an excluder and before the beekeeper knows what is going on there is a drone-laying queen in that hive, as the queen has been unable to fly out and mate.

A very common cause of drone-laying queens is imperfect union with a drone. Drones need a temperature of the air 70 degrees or warmer. Matings are best when the air is around 80 degrees. The act of coition of drone and queen is complicated, very complicated. It requires time, possibly several minutes. If it is cool and windy the drone is unable to perform the act properly and the queen goes home with a scant supply of the vital element. She may fly again the next day and be taken proper care of if the day is hot.

As a queen breeder for some 25 years I found that I could not produce satisfactory queens in early May or after early September uniformly. Some years I could, others I could not. Cold winds, chilly foggy days, and too many clouds would often result in my having 75% of my queens prove of little value. Far different during the hot days of June, July, and August.

Connecticut.

## Two Hundred and Fifty Letters Received and Answered

**By J. E. Johnson**

Up to date, following my article on page 597 of the November number of Gleanings, I have received and answered over 250 letters. It looks as though I had been able to wake up the beekeepers on the subject of honey plants. Here are a couple of the letters that are so interesting that I hope you can use them in Gleanings:

I was much interested in your letter in Gleanings. What we beekeepers should do is to plant more for the bees. I have 100 hives all the way from the Cumberland mountains to the coast. I have a grove of several hundred Vitex trees and I think this year I am the only beekeeper in this part of the state that has any sur-

plus honey. I have been busy all the summer moving the weak hives near these trees and they build right up. My only trouble is getting the seeds of these trees to grow. Why, I don't know. If you could tell me how, I sure would be glad. My trees right now are shedding their bloom and have lots of seed.—J. S. Brown, Virginia.

I have had no trouble in getting Vitex seeds to grow. I suggested that he correspond with my friend in Winter Park, Florida, Wm. John Williams, who writes also as follows:

The Vitex bush or tree is not very common here in Florida. It is not listed among our Florida trees, so I went to a friend of mine near here who has a nursery, to ask him about it. He has two large bushes, and he has to trim them a great deal. He threw some trimmings under an orange tree and the seed sprouted and grew into bushes. He gave me four large and several smaller plants, so I have a wonderful start. I was pleased to see the flower and the seed. He says bees are always on the Vitex flower. I think four of the bushes will have some bloom.

## Comments on "Panel Heat in the Hive" By M. I. Taylor

**—in Gleanings for December 1946, page 679**

**By E. L. Sechrist**

It is good to see an article by a man who, like Mr. Taylor, has devoted time to studying one of the best books on the subject of heating and air conditioning: "The Standard Heating, Ventilating, and Air Conditioning Guide". This requires considerable effort but will help to keep a student on the right track. He has stated truly that "the surfaces next to the bees are not cold walls but honey in the comb or cells of wax acting as insulation", but when he includes what he calls "motionless air" and gives as an example the vacuum bottle, he departs from the text of the "Heating and Ventilating Guide".

The space between the glass walls is, to begin with, not "dead or motionless air", but a **vacuum**. As soon as even the tiniest tip of the sealing projection at the bottom of the bottle is broken off, we all know that it ceases to be a vacuum bottle because the air enters at once and it becomes **almost** a dead air bottle, but not quite because **through that small hole air will circulate and will carry heat** from the warmer to the colder side. We know that a broken vacuum bottle has little heat retaining value. The supposed "dead or motionless air" in the cells of the comb is not dead air but is air continually in motion and carrying heat by **convection currents** from the colder to the warmer cells. This air, as Mr. Taylor says, comes in through the 3/8" spaces between the combs. A lot of heat can pass through a 3/8" crack in the wall of a house.

The bees do the best they can, but **convection currents** move a lot of heat through these 3/8" spaces.

## Birds Destroying Queens

**By Chapman Grant**

I had an article in the September 1946 issue of Gleanings about birds selecting drones. What I said was true as far as it went, but Mr. Fred M. Sickler of Bonsall, Calif., has pointed out that possibly birds destroy queens when they fly high among a congress of drones to become fertilized by a member of a distant hive. I would like information on birds killing queens.

San Diego, Calif.

## Releasing Attendant Bees from Queen Cage

**By Glenn Gibson**

Last year we received a number of queens and had very little time to introduce them. Knowing that we should let out the attendant bees, we tried the smoke method. After losing two or three valuable queens we hit on the idea of using a pocket comb to hem the queen in one end of the cage. This made it very easy to release the worker attendants. It was very quickly done, too.

Minco, Okla.

# Second Glances

By C. M. Isaacson

**Saving sufficient winter stores** can involve a painful decision when the surplus to the beekeeper is very light and the price as high as this year. But unless one intends to go out of business entirely, or perhaps start anew with package bees, it is the only wise course (page 1), and Mr. Woodson could well be elated that he had done so when the fall flow was cut short.

**Increasing yields** through early division is not particularly a new idea, but the tests reported on by R. E. English do show clearly what can be done under favorable conditions —that properly made divisions can sometimes actually outyield undivided colonies (page 3). The mention of "colony morale" as a decisive factor in total amount of honey produced is pertinent. Perhaps the phrase is not too concrete but we all know that there is a peak at which colonies work best. It is not necessarily dependent on **total** population, but as much on age of bees and the factor of **growth** being present when the honey flow begins. A large population simply "marking time" may not do as well as a smaller one just at the peak rate of increase in numbers of field bees.

**Diminishing bee pasturage** is becoming a serious problem in many p l a c e s. Farming conditions are changing, and with shrinking acreages of honey plants, locations become more and more crowded. The efforts Mr. Pellett tells us of (page 7) are of real importance. If plants capable of establishing themselves somewhat permanently on waste land can be found and propogated, it will be a big step in stabilizing the pasture for a location. The whole program suggested in the article is well worth working hard on.

**Sulfathiazole and selective breeding**—are they the "cure" for AFB? Lloyd Gardner's comments (page 10) are written in a calm and fair style, and his points are well taken. There **have** been many cures for this disease in the past and all except the drastic burning "treatment"have been discarded, mainly because with them allowance could not be made for human error, as Mr. Gardner rightly says. Will sulfathiazole overcome this objection? Let us hope so. The **reported** "yeas" (pages 2, 18, in this issue) seem to be outnumbering the "nays", but a few doubts and cautious objections can be heard. Mr. Gardner's mention of the danger of robbing of colonies being treated is a valid objection, Propolis Pete's reference to the possibility of a developed resistance **to** sulfa by the AFB bacteria is likewise, and Mr. Rahmlow's comment on interchange of equipment in modern commercial beekeeping is very true. Only time will tell; if this drug **is** all it is claimed to be, no objections can stop its use.

**Swarm control** can be both simple and effective. That seems to be the gist of Mr. Thomson's article (page 12). And it is interesting to note that his method begins the fall before—in leaving plenty of honey and pollen for each colony. That is correct, of course, for it is strangely true that really strong colonies present less of a problem in swarm control than medium ones. And his admonition to use any method on time—or even a little ahead of time —is certainly well put.

**Cooperation between beekeepers and fruit growers,** such as Howard Myers reports (page 15) is surely a fine thing, and should help a great deal in taking care of the difficulties that arise in conection with the spray programs of orchardists, where these conflict with interests of beekeepers. That dusting can be more destructive of pollinating insects than spraying, that arsenicals are the most deadly in total effect to the honeybee, and that DDT **properly** used can actually be preferable to other insecticides—these, and many other points in this summary of the discussions are surely in agreement with past findings.

**Experiments are illogical** unless check colonies and careful records are kept says the Editor on page 34. He is right. We should not enthusiastically report conclusions unless these conditions have been fulfilled.

**Protect your future income.** That final sentence in the **Institute News Notes** (page 43) is one to re-read—and act upon.. The work of the **Honey Institute** in our behalf has been effective—shall we make our support equally effective?

# 80 Years Among the Bees

By E. R. Root

**Difference in Wintering Bees Now and 30 Years Ago.**

Perhaps our readers have noticed that our discussions under the above heading have attempted to show the mistakes of the past to prevent their recurrence.

In the early days, a cluster of bees that would cover eight or nine combs in a 10-frame Langstroth hive was supposed to be strong enough to winter successfully when the hive was packed, leaving a restricted entrance at the bottom. Little attention was given to the importance of the escape of moisture, which, entering at the top would cause the packing to become wet and freeze. We made a further mistake during those days in believing that pollen was the cause of dysentery, concerning which we heard much, and so it was a practice for a number of years, even into the 90's, to extract closely and then feed 20 lbs. of sugar. While the bees wintered fairly well on this pollenless food, they were unable to raise much brood in the early spring and many colonies suffered from dysentery.

Thirty years of experience and close observation has shown that our colonies in the early days were altogether too weak to stand the rigors of winter. A cluster of bees that would cover 8 or 9 combs in a 10-frame Langstroth hive would shrink during near zero weather to where it would occupy spaces between only three or four combs. The clusters in April were very small and dysentery was a common malady. In the early days little clusters needed packing more so than the clusters of bees that we now have. These big clusters occupy 17 or 18 combs in a two-story hive and would be strong enough, in many cases, without packing to winter successfully. During zero weather these clusters would shrink down to occupy spaces between six or seven combs. The bees in the center of a large winter cluster can generate enough heat to prevent the bees from being chilled through.

### The Value of Occasional Winter Sunshine

In the early days we did not recognize the importance of occasional sunshine during mid-winter in moderate climates. These little clusters of bees would actually die of starvation, if not of cold, within two inches of honey. The heavy packing that was put around the hive prevented the sunshine from penetrating the cluster so the bees could expand and reform, moving to fresh stores. Today, with moderate packing, or none at all, the sunshine can penetrate to the cluster, allowing it to break and reform.

Back in the early days we did not know that bees were cold-blooded animals. We thought they were warm-blooded and that they needed packing to help keep out the cold. While there is no doubt that dry packing helps reduce the amount of stores consumed, yet if a cluster is too weak it shows evidence of dysentery. Today dysentery is practically a thing of the past among commercial beekeepers. At this point a caution should be presented. We should by no means draw the conclusion that no packing is needed. There are some localities where air is dry and the packing can be kept dry all winter. This will save in the consumption of stores, but it is a question today when there is a zero spell whether the bees should be wintered under ground where they will not be exposed to the extremes of zero weather. Cellar wintering in many of the northern localities has disappeared,

While it is admitted that packed colonies will consume less honey, unpacked colonies, owing to changes in weather and occasional sunshine, will consume more stores and raise more brood, resulting in stronger colonies for the main honey flow when it comes.

This simply means that the bees wintered outdoors convert more food into brood and bees, and this means an increase in the honey crop in many and most places where the winters are relatively mild.

In like manner bees wintered in cellars will use less stores and consequently will not have as much brood and bees and may store less surplus than outdoor wintered bees.



XUM

1. Left to right: Mr. and Mrs. Walter Kelley, Paducah, Ky.; Lynn Dewey, Merritt Island, Fla.; John Demuth, Corfu, N. Y.
2. Speakers' table at banquet, January 16, at the Hillsboro Hotel.
3. F. S. Houston of Tampa, Fla., center, discusses sulfa with fellow beekeepers.
4. Group assembled in front of Tampa University Auditorium where the meetings were conducted.
5. Ned Prevost of South Carolina, D. B. Bradshaw of Idaho, and Baxter Woodman of Michigan.

## The Tampa Meeting

**By M. J. Deyell**

Those who have attended a four-day bee convention and have mingled with beekeepers from all parts of the country, attended conferences on the side, perhaps until midnight, tried to be present at as many sessions as possible, snatched a few hours sleep, then tried to look wide awake and intelligent during the day, will realize how difficult it is to give a comprehensive report of such a meeting. There were so many things going on that it was like attending a three ring circus.

The unusually large crowd of beekeepers—approximately 700 from 42 states and three other countries—made it necessary to hold the meeting a short distance from the hotel, in the Auditorium on the campus of Tampa University.

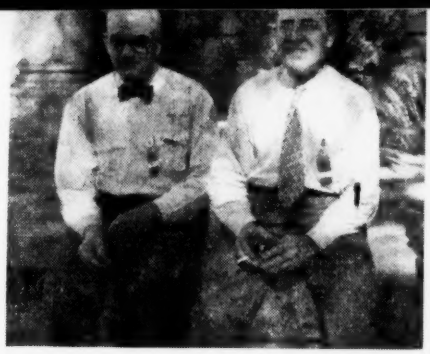
The weather was beautiful and warm. In fact, the mercury got up to 83 degrees. There was a temptation to go deep-sea fishing and sight seeing, but most of the beekeepers attended strictly to business until the sessions were over.

The program committee, especially Glenn Jones, Secretary and Treasurer of the National Federation, is to be commended for its untiring efforts in making arrangements for this meeting.

**Apiary Inspectors of America Meet**

This session on the opening day

Dr. L. Haseman of Missouri



A. G. Woodman of Michigan, and L. C. Dadant, of the American Bee Journal.

was unusually interesting, mainly because there was an opportunity for differences of opinion concerning some of the subjects discussed. In spite of differences there was a spirit of "give and take" and of cooperation throughout this and the sessions that followed.

The use of sulfa drugs in the control of AFB was discussed pro and con. Dr. W. J. Nolan from the U. S. Bee Laboratory at Beltsville, Maryland, pointed out that Bacillus larvae in the spore stage have been kept alive for forty years. This indicates how persistent this organism is.

Robert Foster, Apiary Inspector of Florida, reviewed briefly the various methods employed during the past years in attempting to eradicate and control AFB. Since Florida was one of the first to use the sulfa treatment developed by Dr. Haseman of Columbia, Missouri, on a rather large scale, apparently considerable headway has been made in the control of disease by its use. Mr. Foster was of the opinion that there should certainly be a friendly cooperation between bee inspectors and beekeepers and that the use of sulfa should be under the supervision of the state bee inspectors. This appeared to be the consensus of the members.

Dr. L. Haseman, who started experimenting with drugs in 1942, gave a favorable report on accomplishments thus far. He advised burning badly diseased combs, mainly to save the bees the work of cleaning them up. Dr. Haseman would like to have it understood that what he has given is a progress report and that further experimental work will have to be carried on to determine the final outcome of the efficiency of sulfa drugs,

F. S. Houston of Florida, who has had considerable experience in using sulfa and is also a firm believer in its efficiency in the control of AFB, called attention to the fact that it is necessary to use the drug properly in order to attain success.

The word of caution issued by James I. Hambleton, appearing in this issue on page 75, was read by Dr. Nolan who substituted for Mr. Hambleton. Practically all are agreed that more work needs to be done before sulfathiazole can be used and recommended without reservations.

### Standardization of State Foulbrood Laws

Dr. R. L. Parker of Kansas, who was unable to be present, sent a paper to be read in which he recommended that the foulbrood laws of United States and Canada be standardized, and that there be a uniform apiary inspection system. This caused considerable discussion. Such a standardization would tend to simplify requirements in the movement of bees from one state to another. During these days of migratory beekeeping it seems essential that standarization of requirements throughout all of the states, as well as Canada, would be a distinct advantage and should be one of our objectives for the near future.

It was brought out by James Gwin, State Apiarist of Wisconsin, who was chairman during this session, that beekeepers and state inspectors everywhere should be more honest and strightforward in their dealings one with the other. This would simplify matters greatly.

### The New Breeding Program

Dr. O. L. Mackensen of the Baton Rouge Bee Culture Field Station told of the improved technique of artificial insemination of queens. Queens reared by this method produce more

(Continued on page 93)



XUM

# Talks to Beekeepers

By M. J. Deyell

There are thousands of people over the country, men, women, boys, and girls who look forward to keeping some bees, either a few hives in a back lot, or perhaps commercially on a large scale. Our industry needs beginner beekeepers to take the place of those who have passed on or who are no longer able to carry on.

**How to Learn Beekeeping.** Some learn by the trial and error method, which is one way to learn, even though the tuition may come high at times. Some have the idea that there isn't much to beekeeping, that practically anyone can succeed with little if any preparation. Nothing is farther from the truth.

The best way to learn is to read reliable bee books and journals, talk with beekeepers, attend beekeeping meetings whenever possible, then get some bees—not too many to begin with—and go to it. It will be found that theory and practice go hand in hand in attaining success.

**A Word About the Honeybee Family.** A colony of bees is larger in numbers at some seasons of the year than at others. During the cold winter months a colony clusters tightly on the combs in the hive and eats just enough honey to keep alive. Many of the bees that are born in late summer die before spring. Others live only a short time the following spring. There are approximately 12,000 worker bees, one queen, and no drones in a normal colony in this latitude in early spring during March. As the season progresses the population increases until, at the height of the season, there may be around 75,000 worker bees, perhaps a few hundred drones, and one queen.

**The Queen** is the mother of the entire family and normally there is but one queen in a hive. A queen may lay her own weight in eggs in one day. She will lay, in the first few months in the spring, from 300 to 1000 eggs a day and in the next month, or just before the main honey flow, around 2000 eggs a day. She can be the mother of 100,000 worker bees in one hive. If the old bees did not die off at the age of six weeks during the summer season she might have twice that number. The same egg that produces a worker bee produces a queen. The larva of the worker bee is fed a coarser food by the nurse bees and for that reason it is not developed into a perfect female like the queen and not so quickly. In this way the bees can of their own will produce either a queen bee or a worker bee from the same egg.

A queen bee may live four or five years but as a rule does not live more than three years.

**The Worker Bee** lives about six or seven weeks during the height of the season but workers born late in the fall will live through the winter.

The bees that gather the surplus crop of honey do not eat it. The bees that consume it do not help to gather it because the generations change so quickly. But the colony lives on.

**The Drone** which is a male bee has no father, but strange to say, he always has a grandfather (a maternal grandfather). The queen lays an unfertilized egg to produce a drone —a clear case of parthenogenesis or virgin birth.

The drone is not permitted by the worker bees ever to live more than one season. He dies after mating with a queen or he is driven out of the hive or killed at the close of the honey-gathering season. The ethics of the hive is that if a bee does not work neither shall it eat. During the honey harvest he is a happy loafer, never working, always fed by others, until fall comes and then suddenly nobody cares for father.

Some carry the idea that the queen is the boss of the colony. As a matter of fact, her main duty is



XUM

Queen Worker Drone

that of laying eggs. There are no bosses so far as is known. The colony works as a unit and is somewhat comparable to a human in that it is an entity.

**A Word to Those Who Have Bees.** At this time of year, in the North, there is nothing to be done for bees, provided each colony has an abundance of stores and an edequate amount of protection from cold weather. It is inadvisable to molest colonies in mid-winter unless it is absolutely necessary to supply food and this may be done by opening the hive to remove one or more empty frames at the outside of the brood chamber and replace these with full combs of honey.

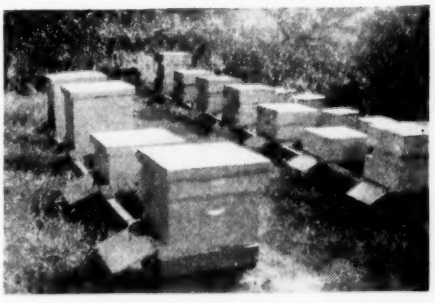
**Snow-covered Hives** are, as a rule, well protected against the elements. It is well to examine hive entrances, especially following an ice or sleet storm, to see that nothing obstructs the openings. Sometimes dead bees or ice may clog hive entrances and in some cases may result in the loss of colonies. Usually, however, enough air filters through to keep the bees alive.

A number of beemen have hives with top or middle front openings which the bees can use on flight days. These upper entrances serve as safety valves in that if the main or bottom entrance becomes clogged the bees can get sufficient air through the upper entrance and can also use it to get out and in during a day warm enough for a flight.

**In Some of the Most Southern States** bees collect pollen and some nectar this month. Colonies that have wintered well and are very populous in bees may require more comb space and that means that a super with empty combs may be needed for each colony. This should give strong colonies room for the storage of incoming nectar and pollen, and additional comb space for brood rearing. Those planning to increase the number of colonies this season should get in touch with bee supply dealers to get orders placed early for needed bee equipment as well as bees.

**What Kind of Honey to Produce?** This question confronts most beginners. The majority of people like section comb honey and ask for it. It should be said that the production of comb honey is more difficult than that of extracted honey. Bees will store surplus in extracting combs more readily than they will in sections (sometimes called pound boxes), which are much smaller than extracting frames.

To produce section comb honey successfully one must have very populous colonies, a good location for abundant nectar, and must use swarm control measures. It seems probable that comb honey production may be taken up again in the near future more than it has been during the past few years. We shall have more to say on this later on. There is something intriguing about producing comb honey.



**A back lot apiary with hives up off the ground on stands. It seems preferable to have hives on the ground, on hive stands with suitable alighting boards that enable bees to crawl into the hives easily, when they fly in from the fields heavily loaded.**

# Asked and Answered

### Moving Bees in Winter

Question.—Would it harm bees to move them a long distance in mid-winter?—A. W. Spalding, Jr., Michigan.

Answer.—Moving bees in mid-winter would not improve their condition. However, since you plan to move them from North to South where they are likely to get a cleansing flight soon after being placed on their permanent stands, moving would not harm them to any extent. If you were to move your bees in the North during mid-winter that would be a different matter.

### Controlling Granulation of Honey

Question.—Why does my honey sugar in the jars? Would it be that air gets at it? This is the only cause that I can think of, as after I poured it in the jars a sort of foam comes to the top. When heating honey should the water it is heated over be a certain temperature?—Yaro Zronek, Ohio.

Answer.—Some kinds of honey with a high percentage of dextrose granulate more readily than others. Most honeys will granulate if kept too long before using. Granulated honey should be heated to 160° F. and kept at that temperature for about 15 or 20 minutes, then allowed to cool. During the cooling the honey has a chance to clarify, that is, particles of air or foam will rise to the surface. This should be skimmed off. When honey is put up in glass for the grocers it should be heated once again to about 150° and then put in jars. The caps of the jars should be put on when the honey is hot. This procedure tends to keep the honey in liquid condition until it is in the hands of the consumer, provided of course the honey does not remain on the grocer's shelves for too long a time. Most beekeepers heat honey in 60-pound cans which are placed in a wash boiler of hot water on a couple of sticks, to keep the bottoms of the cans from coming in direct contact with the bottom of the boiler containing the water.

### The Age of Bees that Make a Swarm

Question.—When my bees swarm, which leaves the hive, the young queen and the old bees or the old queen and the young bees?—W. S., Illinois.

Answer.—When the prime or first swarm leaves the hive the old queen and most of the old bees constitute the swarm. The young bees remain in the parent hive. As a rule, the prime swarm issues at about the time the virgin queens are ready to emerge from capped queen cells. When two or more queens emerge at about the same time, these virgin queens will fight until only one remains and she becomes the mother of the colony after she has mated and started laying. A virgin queen usually goes on her mating flight in about five days after she emerges from the cell, and in another five or ten days after her emergence from the cell she starts to lay eggs.

### Life of a Good Comb

Question.—What is the life of a good comb in the brood chamber? Would it be practical to use it, say, for ten years?—Fred Anderson, Texas.

Answer.—We have good brood combs that have been in our hives for over 25 years. We find that if brood combs are drawn from full sheets of worker foundation properly wired, they are likely to last a great many years. Sometimes combs may be mutilated by letting them fall accidentally. Where a hole is punched in a comb the bees are likely to replace this with drone cells. A comb with a considerable amount of drone cells should be removed from the brood chamber and used in the super for the production of extracted honey, or cut out and replaced with a full sheet of foundation in order to have the bees build a new comb.

### Best Time to Increase and Requeen

Question.—When is the best time to increase colonies—fall or spring? When is the best time to requeen?—C. R. Davis, North Carolina.

Answer.—The best time to make an increase in your apiary is at the very beginning of the major honey flow. Of course, you may not secure quite as much surplus honey from divided colonies as you would if you left the colonies undivided. However, by doing the work judicially you are likely to be successful, especially if there is a good honey flow on. Authorities tell us that late August or early September is the best time of year to requeen. The young queen introduced at that time will get well established in the hive during the fall months and will produce a populous colony of bees ready to go into winter quarters. This is what counts for good wintering.

# Just News

**The winter meeting of the Cuyahoga County Beekeepers' Association** will be held at 2:00 P. M., Sunday afternoon, February 23, in the ground floor assembly room of the Miles Avenue Church of Christ, 9200 Miles Avenue, Cleveland. Everyone is invited.—Edwin A. Johnson, Sec.

**The New Rochelle Beekeepers' Association** will hold its regular monthly meeting at 2:30 P. M. February 16, 1947, at the Odd Fellows Hall, 20 Lockwood Avenue, New Rochelle, N. Y. Discussions will be held on the inclusion of sulfathiazole in early spring feeding of bees to prevent the onset of foulbrood, and instructive movies will be shown after the meeting. Visitors are always welcome. Refreshments will be served.—B. F. Miller, Publicity.

**The Nebraska Honey Producers' Association** will meet February 4 at 207 Plant Industry Building, College of Agriculture, Lincoln, Nebr. Frank Swanson of The A. I. Root Co., Council Bluffs, Glenn Jones, Atlantic, Iowa, and Dr. Haseman, of the University of Missouri, as well as other speakers, will appear on the program.

**The Bronx County Beekeepers' Association** will hold its regular monthly meeting at the home of W. Molitor, 1348 Franklin Ave., the Bronx, at 2:30 P. M. Sunday, February 9, 1947. Bring along your bee problems for discussion.—Sam Roberts, Sec.

**The Berks County Beekeepers' Association** will meet February 28 in Reading, Pa., Reed and Walnut Streets, at 8 P. M.

**S. D. House, Camillus, N. Y.,** a well known beekeeper of many years' experience, passed on recently at the age of 86.

### Our Cover Page

Taking advantage of Hawaii's mild climate, this swarm of honeybees found the shelter of an Hawaiian holley tree to its liking, and has established a permanent home among its branches. Outdoor swarms are commonplace in the wooded uplands of the Islands.—Richard E. Nieman, Honolulu, T. H.

### BEEKEEPERS' PROGRAM
### Kansas State College
### Agricultural Week

Thursday, February 6, 1947

Room 102, Fairchild Hall

R. L. Parker, Professor of Apiculture and State Apiarist, Presiding.

9:00 A. M. Apiary Inspection in 1946—R. L. Parker or Frank Miller, Jr., Apiary Inspector, Kansas Entomological Commission, Manhattan, Kansas.

9:15 A. M. The Modern Honey Production Business — Ralph W. Barnes, President Nebraska Beekeepers' Association, Oakland, Nebraska.

10: A.M. Problems of Beekeepers in Relation to the National Federation of Beekeepers' Assocs.—Glenn O. Jones, President Iowa Beekeepers' Association and Secretary National Federation of Beekeepers' Associations, Atlantic, Iowa.

10:45 A. M. The Future of Beekeeping in Kansas—R. L. Parker.

Roger C. Smith, Head of Department of Entomology, Presiding.

1:30 P. M. Alfalfa Pollination and Seed Production—R. L. Parker.

2:00 P. M. Cooperation Between Farmers and Beekeepers — Glenn O. Jones.

2:45 P. M. Colony Management for High Production—Ralph W. Barnes.

3:30 P. M. Visit to Kansas Agricultural Experiment Station Apiary.

### TAMPA CONVENTION

(Continued from page 89)

brood, and the colonies headed by these queens produce more honey than those headed by queens bred in the normal way. It seems probable that in the future when the technique of artificial insemination of queens is perfected still further this method may be used more generally than at present. At least, the method has justified itself in that drones of known parentage may be used in propagating a superior strain of bees.

Walter Kelley of Kentucky, Editor of "Modern Beekeeping", thinks there should be more publicity on the work done by the field stations under Mr, Hambleton. This remark brought out some discussion on this matter and it seems probable that in the near future there will be a closer cooperation between experimental field stations and queen breeders.

(To be continued)

# Homemaking Chatterbox

**By Harriett M. Grace**
**Director**
**American Honey Institute**

February brings National Cherry Week, celebrated from February 15th through the 22nd, and what an appropriate time it is. One can hardly plan a menu for Washington's Birthday without including at least one cherry dish. The famous story of George Washington, his new hatchet, and his father's favorite but ill-fated cherry tree started it all. That story may be fictitious, but there is nothing fictitious about the goodness of this Honey Cherry Pie.

**Honey Cherry Pie**

One large can cherries, 1 cup honey, 3 tablespoons cornstarch, ½ teaspoon cinnamon.

Drain cherries. Mix cornstarch with a little of the juice. Add to honey and mix well. Pour over cherries which have been placed in an uncooked pastry shell. Sprinkle with cinnamon. Dot with small pieces of butter. Make a top crust, but before placing it on the pie, cut a large circle out of the center, using a saucer or small plate. Bake pie in a hot oven (450° F.) for 30 minutes. From the remaining pastry cut a small hatchet, place it on a baking sheet and bake until just brown. When pie is done, place the baked hatchet in the center of the cut out circle.

* * * * *

How much should I buy? That is a question often heard at the grocery store. Quantities of meat are especially difficult to estimate, but here are a few general rules:

Allow ¼ pound of boneless meat per serving. If bones, fat, and lean are included in the weight, allow ½ pound per serving.

Purchase ⅓ pound of solid flesh fish for each serving, but if you buy it in the round, including bones, head, and tail, better plan to get ½ pound for each person to be served.

* * * * *

The work of cooking is becoming less and less. Not only do we have mechanical gadgets of many kinds to make preparation of food easier, but the need for preparation itself is being cut to a minimum. Packaged puddings and flavored gelatins have been joined by a long line of other products that need only the addition of liquid and they are ready for the stove or the refrigerator. These are packaged pancake, waffle, and biscuit mixes; mixes for cakes, muffins, and even pie crust; and ice cream and candy preparations, to say nothing of those for soups. Ready to use items are now on the market that require not even the addition of liquids. Frozen rolls and cookies need only to be thawed before they are popped into the oven for baking. There are canned, already mixed, rolled, and cut biscuits. All you have to do is open the can, put the biscuits on a baking sheet, and bake them. War-time developments in the canning of foods for military use have brought us still other time and labor savers. Cooked hamburgers will soon be available, packed four to a 1-pound tin. Made of U. S. Inspected utility grade beef with very little fat, they are fried in vegetable oil and packed in a tangy tomato sauce. Just open the can and heat. What is more, canned sandwiches are finding their way to the retail market. So far, cheese filling is the only one used.

* * * * *

Another cooking time saver is the new "quick rice" now appearing in stores. Preparation: Place the rice needed in a fairly large cooking vessel and add an equal amount of boiling, salted water. Stir just enough to dampen all the rice. Bring to a boil. Remove from heat, let stand just ten minutes and serve.

* * * * *

Can you simplify your dusting routine? If stretching and stooping to reach those out of way places have put you in the dusting doldrums, here is a way out. Get a dust cloth on a handle. It looks like a miniature dust mop, and extends your reach about 18 inches.

* * * * *

To give your foods the radiance of molten gold, use honey generously on pancakes, waffles, fried corn meal mush, biscuits, muffins, scrapple, and French toast. For extra flavor and nutrition as well as golden eye-appeal, mix equal parts of finely grated orange peel and honey. Let the mixture stand over warm water for ½ hour so that the flavor will be well blended.

# Siftings

An open mind on controversial subjects is important now. There are people who shut their eyes and ears to the truth, and even after they have seen the "giraffe" will declare positively, "There ain't no such animal".—E. R. Root.

**"All successful remedial measures for swarming, whether applied after the colony has acquired the swarming fever, or applied to colonies previous to the swarming season, have one factor in common—a temporary disturbance in the continuity of the emergence of young bees."—George S. Demuth.**

"Perry M. Goins of Tulare County, California, is conducting a one-man campaign to have honeybees declared livestock so he can shoot bears. Bears have been raiding his hives. But if bees are declared livestock, the bears will become 'predatory animals'. Then Goins can shoot them legally."—From the July issue of Farm Journal.

**"The practice of clipping the queen's wings was recommended by Virgil some 2000 years ago as a preventive of swarming ."—Arthur M. Sturges in Practical Beekeeping.**

A beekeeper from Missouri says: "One neighbor beekeeper keeps his hives off the ground to keep the moths out, another moves his hives away from tall weeds to keep away from moths, another says handling makes bees gentle, and still another kept one queen in a colony for 14 years (or thinks he did). All of these beekeepers have bees in box hives."

**"In these sugar rationing days a beekeeper and his honey are soon parted."—Pathfinder**

A bee with empty honey sac can fly about 15 minutes, but no longer, on the sugar in her blood. It is suggested that this is why bees have a normal flight range of about three miles—the distance they can fly when empty. However, it is known (see Mr. Park's work) that bees take some honey with them when they leave the hive, so that there seems to be no certain proof of this interesting suggestion. It is known that bees use a great deal of sugar for flying fuel and would gather more surplus if they were closer to forage.

**"What to do with laying workers. An easy way to get rid of laying workers is to set their hive for a few minutes on the stand of another strong colony when honey is coming in. The incoming bees of this queen-right colony will make short work of the laying workers."—W. T. Chapman, Orange, Calif. (Taken from the Western Honey Bee.)**

Speed at which bees fly.—I have driven along a road in an automobile with speedometer registering between 15 and 20 miles per hour—perhaps averaging 18 miles per hour—and have observed bees flying alongside, keeping opposite the car window. Once I took after a big swarm that left my apiary in Northern Michigan. I drove a Model T car and kept beside the swarm that traveled parallel to the road for almost a mile. My speedometer registered 15 miles per hour. The swarm—the largest I have ever seen—disappeared in a big swamp.—Jack Deyell.

**Something we would like to do: Weigh, with a tested scale, 1 pound of bees well filled with nectar during a heavy honey flow, into the cage, then weigh the cage of bees, without feeding them, every six hours for four days, then count the bees. It used to be said that it took about 5000 bees to make a pound. At present it is said that about 3500 bees make a pound. Either bees are getting larger or the bees that weighed 5000 to a pound were empty and the ones that weighed 3500 to a pound were very full of nectar. Possibly the nectar had a very high sugar concentration.**

"For best success get pure stock, keep tab on every pound of honey taken from each colony, then breed from the best storers that are all right in color and temper."—Dr. C. C. Miller.



XUM

# Editorials

**Feeding Dry Sugar** While attending the Tampa meeting we had an opportunity to meet some beekeepers who had tried out the feeding of dry sugar instead of sugar syrup.

The consensus seemed to be that dry granulated sugar may be fed quite successfully during an emergency when the bees are at the point of starvation. It seems that bees utilize the dry sugar at that time when there is no honey in the hive. However, when there is an abundance of honey on hand, or a moderate amount, bees are not likely to take the dry sugar, especially during the early spring or fall when the weather is cool.

Obviously, there are at least two advantages in using dry sugar for emergency feeding; first, it can be gotten to the bees easily and quickly; secondly, it does not stir up the bees or cause them to start robbing.

In feeding dry sugar, some pour a relatively small amount of it on the inner cover with center blocks removed; others put the sugar into a division board feeder which fits into the space occupied by a comb when removed from the hive. Others pour the sugar on the bottom board of the hive at the back. In any event, it seems to be an advantage to place a reducer in the hive entrance, with the small opening facing up to help prevent some of the granules from being carried out of the hive.

**Bee Supplies** As reported in previous issues bee supply production has been low during the past six months because of lumber limitation Order L-359. This order was put into effect last August by the Civilian Production Administration in behalf of the housing Administration. By so doing it froze all Western Shop Lumber for mill work production that had been used for many years in bee hives. Its effect on bee supply manufacture was immediate and disastrous principally because the buying contacts of most supply manufacturers were with western mills which produced primarily Shop Grades of lumber. New mills that were approached on the non-frozen grades of lumber politely referred the bee supply manufacturers back to their old sources of supply with the statement that they were unable to take on any new accounts.

The result was that hive makers were forced to buy lumber where they could. Some suitable substitute lumbers were found but at a very marked increase in price, for often retail prices were asked by these new sources.

On December 31, L-359 was amended reducing the set-aside on Shop Lumber to 85%. It is our belief that the supply industry is in somewhat the same situation as before the amendment. The hunting license applies to only 15% of the area and this is already over-crowded by all the other hunters who also have this special limited hunting license.

The new Congress seems inclined to do away with the balance of the war agencies and with them undoubtedly L-359 will also be removed, but it probably will remain on the books long enough to cause supply manufacturers considerable difficulty in obtaining needed western lumber for this season.

We believe that all bee supply manufacturers are doing their best to obtain satisfactory lumber and at as reasonable prices as possible. It is hoped that hive replacement needs, at least, can be met.

**Procedure for Securing Sugar for Bees** We learn from a letter received from Harold J. Clay, Chief, Honey Section, Special Commodities Branch, U. S. Department of Agriculture, Washington 25, D. C., that the procedure for securing sugar for bees in 1947 is similar to what it was in 1946. However, the former OPA district offices are now known as Sugar Branch Offices, OPA, Office of Temporary Controls.

There are 64 such offices in the country, at least one in each state. Eight of the Sugar Branch Offices to close February 15, to be transferred elsewhere are: Albany, N. Y. and Buffalo, N. Y., to Syracuse, N. Y.; Scranton, Pa. to Philadelphia, Pa.; Washington, D. C. and Wilmington, Del. to Baltimore, Md.; Nashville,

Tenn. to Memphis, Tenn.; Fort Worth, Texas to Dallas, Texas; and Jacksonville, Fla. to Miami, Fla.

A revised sugar application sheet, OPA Form R-356, may be obtained from your nearest Sugar Branch Office. A beekeeper who needs sugar for bees may secure not more than ten pounds for each colony of bees. If, however, additional sugar is needed to prevent loss of bees because of starvation, a certificate permitting him to obtain not to exceed 15 more pounds of sugar per colony may be secured, if request is certified by the local county AAA Committee representative.

It should be understood that "each newly installed package of bees and each queen mating nucleus are considered to be a full colony with respect to the securing of sugar for feeding them".

**Hive Heating Devices** It is dangerous to say that a thing cannot be done because if such a statement is made some one "up and does it". Some one said some years ago that flying through the air with a mechanical contrivance was impossible. The Wright Brothers proved it was possible.

During the years we have assumed that a colony of bees was capable of maintaining the proper hive temperature, provided, of course, the owner of the bees cooperated to the extent of providing ample food and a reasonable amount of protection against the elements.

Mechanical contrivances for heating hives have been tried. A number are now trying different types of hive heating equipment with the idea of reducing the energy necessary to be expended by the bees to maintain the correct temperature in the hive.

Obviously, the conservation of bee energy is a commendable objective —if it can be achieved with artificial heat thermostatically controlled.

It seems probable that this type of hive heating could be applied on a relatively small number of hives in back-lot beekeeping. Whether or not the cost of labor and equipment would be justified from the standpoint of the extra amount of surplus honey and wax secured, remains to be found out.

This type of hive heating in commercial apiaries would seem to be somewhat difficult, especially in regions where electricity is not used.

However, if the principle is sound and can be worked to advantage without any bad effects upon the bees, it is worthy of serious consideration, especially if bees and bee energy can be conserved and larger crops of honey stored. Like other projects under way at the present time, we shall have to wait to see what experiments now being conducted will reveal.

**Uniform Size Cap for 60-lb. Cans** It is a satisfaction to learn that some progress has been made in standardizing a cap for the 60-lb. honey cans. Mr. Adolph Carm, Chairman of the Committee of the National Federation of the Standardization of Honey Can Caps, reported at the Tampa meeting that while considerable progress had been made along the line of inducing can companies to adopt the 2½" cap, some work still needs to be done.

Mr. Carm called attention to the advantage of using the ordinary 5-gallon can for dispensing honey in smaller containers by use of a honey gate screwed onto the opening of the can which is laid on its side with the entrance at the lower side. The honey is drawn off by adjusting the sliding contrivance which opens and shuts the can opening. Such a contrivance was made some years ago but owing to the many sizes of can openings found at the present time, it has been discontinued to a large extent.

It certainly would be a distinct advantage to have 5-gallon cans with the standard 2½" opening, all with a thread that would take a uniform cap. Mr. Carm is to be commended for his untiring efforts.

**Bee Pasture on Roadsides** A considerable amount of land in this and other countries is occupied by highways and railroads. The spaces between the roads and fences on either side is usually occupied by weeds and grasses of different kinds, some of which are nectar plants.

Of late there has been a tendency in some states to keep roadsides clipped or cleaned off, right down to the ground, presumably to improve the appearance of highways and to have a clearer vision for drivers of automobiles and other vehicles, es-



XUM

pecially at road intersections. In some instances weed killer has been applied.

Obviously, much valuable roadside space should be utilized for bee pasture if an intelligent understanding and cooperation could be brought about between state highway officials and beekeepers. It would be undesirable to have roadsides cluttered up with tall plants or weeds that would grow high enough to obstruct normal vision at intersections. However, alsike and white Dutch clover could be grown on roadsides without danger of obstructing vision of drivers. Furthermore, these plants, besides furnishing a considerable amount of nectar and pollen, should tend to beautify the highways and give off a pleasant aroma during the summer months.

**We Must Have Early Queens** Just why some apparently normal colonies of bees with young queens become queenless in winter, we are unable to say. When we make our first spring examination of bees we usually find a few hopelessly queenless colonies, which, when the hives are opened, set up a queenless roar. If a laying queen in an introducing cage is laid on a comb with adhering bees removed from the hive, the bees on the comb will usually gather around the cage and begin feeding the queen with their tongues through the wire screen. When this occurs it is possible to introduce the queen by prying up one corner of the screen, permitting her to walk out onto the comb among the bees. (Do not try this, however, unless the queen is fed by the bees.)

Usually such a queenless colony is quite populous and well worth the price of a queen. It is essential for beekeepers to have queens on hand during early spring. Fortunate is the commercial beekeeper who has planned in advance for queens to be delivered each week, as needed.

It is impossible to rear queens in the North during March, April, or early May. They must come from the South. The southern breeders are rendering a valuable service to our industry.

As time goes on a larger volume of queens will be needed to replace old worn out queens, to requeen hopelessly queenless colonies, and to go with packages of bees used for starting new colonies. Our government is asking for a 6% increase in colonies of bees during 1947.

The old saying, "The queen is the soul of the colony", is indeed true. Many a beekeeper at times during the season would give his kingdom for some good laying queens.

**Cooperation Between Clover Seed Growers and Beekeepers** Just recently we attended a county meeting of beekeepers and clover seed growers in Ohio. Seed growers learned about honeybees and beekeepers learned about seed growing. It was a very worthwhile meeting and we hope it is the beginning of similar meetings to be held throughout the clover region.

The meeting was sponsored by the officers of the county beekeeping association in cooperation with the Farm Bureau agent who, by the way, is sold on the importance of honeybees as pollinators of legumes.

It was brought out by one speaker that legumes are needed, even though commercial fertilizers are used annually. Soils have been running down for some years, especially during the war years when grain crops were raised on such a scale that legumes were crowded out.

It is absolutely necessary to grow more legumes for soil enrichment. Clover seeds are needed and bees are needed for pollination. The time was when the commercial beekeepers found it difficult to find suitable apiary locations. At present the trend is toward seed growers asking beekeepers for bees to be placed near their fields of clover.

At present the clover seed yield is rather low because of a lack of pollinators in most cases. Alsike clover, which usually yields around three or four bushels per acre, could be made to yield as high as 20 bushels to the acre if a sufficient number of honeybees were on hand to pollinate the approximately 216,000,000 florets per acre.

The time is at hand when seed growers are going to be demanding bees and the problem will be to supply enough bees to meet the demand.

# From North, East, West, and South

**SOUTHERN CALIFORNIA, Jan. 2**

**Weather:** Here we are starting another new year with one of the best prospects insofar as moisture is concerned, that we have had in many years. Around ten inches over most of Southern California. This is considered a most satisfactory start for a honey crop. The weather has continued what might be called mild with only a few nights when the weather man predicted it might go below 30 degrees. But wind, whew, how it has been blowing! Clouds of dust mixed with street decorations scattered over the landscape. Grass is six inches high over the country and it will not be long before the flowers will be blooming.

**Honey Crop:** 1946 found a ready market and 1947 looks rosy for the beekeeper who produces a crop.

**Miscellaneous:** Bees on one of our old locations where we have kept them for near on to 50 years have been putting in enough nectar so that it will shake out when we jar the combs. Father often remarked about it in the early spring. It comes from a small specie of willow the Mexicans call "Wate Mote". It never gives enough to extract but is one of those sources that are a great booster for colonies in early spring.

One unusual thing is the number of bees that come to the hives laden with pollen and die near the entrance. Often as many as ten or a dozen can be seen at one time. Who knows why?

Calexico on the U. S. side of the border and Mexicala on the Mexican side are two cities each getting half of its name from the other.

The California State Beekeepers' Association met in annual session at Calexico with a very good attendance. Several in attendance were from the eastern states. Different subjects were discussed, one of the more important being that of the loss of bees by poisoning. We are glad to report that an amicable agreement is being worked out whereby this loss will no longer fall upon the beekeeper. We have no way of knowing just who or how many of the beekeepers made regular trips across the **Line** but if you listen closely they will let drop here and there something of the superb dinner or a wonderful dish they had at a Chinese or Mexican restaurant. These are on the lower side of the line.

The annual banquet was held in the Anza Hotel in Calexico and was attended by about 200.

In the great Imperial Valley where the meeting was held they had a very satisfactory crop this past year and got good prices—in fact, it is one of the few places in the West where you can keep bees on the same location throughout the year and always get some honey.

Beekeepers are busy repairing hives and getting ready for the spring work. When the day is warm they will take a look now and then to see how things are inside the hive. Colonies with plenty of stores are coming on fine.—L. L. Andrews, Corona, Calif.

**NORTHERN CALIFORNIA, Jan. 4**

**Weather:** The rainfall in this area is slightly below normal at this date. During December 2.4 inches of rain brought the total for the season to 5.57 inches or .13 inches below normal. Several days of heavy fog, as well as heavy frosts, have tended to conserve soil moisture. At the time this is being written, the water pail in the apiary is frozen over and a column of ice an inch thick extends from the faucet down to the surface of the ice. The Vitex trees in the apiary that provide welcome shade in summer have dropped their leaves and are covered with a heavy frost. The air is thick with fog, visibility being about 200 feet, a good day to stay off the highway. The fields are green with grass, making conditions ideal for livestock.

**Condition of Colonies:** Floral conditions were generally favorable in

northern California for a fill-up this fall and most commercial beekeepers left their colonies heavy with honey, especially those who make a business of producing package bees and queens. Some less fortunate beekeepers will have to feed in the spring. It generally takes a good super of honey to carry the bees through winter and the spring building-up period. Early fruit bloom and mustard supplies considerable stores for colonies in normal years but it is good crop insurance to leave a super of honey on each hive in the fall. Some commercial beekeepers winter in single story hives and report satisfactory results, but honey reserves are generally held in readiness for spring feeding. Normal colonies are broodless this time of year in this section of California and the bees are more nearly "at ease" than when brood rearing temperatures have to be maintained.

**Some 1946 Statistics:** A hurried review of the beekeeping industry in California for 1946 reveals a production of 20,905,800 pounds of honey from some 460,000 colonies, close to 350,000 pounds of beeswax, around 100,000 packages of bees, and some 200,000 queens. At conservative prices to the producer, the total value approximates $5,000,000 or a little over $10.00 per colony average. This in no way indicates the importance of the beekeeping industry to our general economy since the actual returns of beekeeping come from the increased production of a majority of our fruit, vegetable, seed, and pasture crops resulting from the pollination services rendered by our little co-workers, the honeybees.

**Miscellaneous:** The annual convention of the California State Beekeepers' Association held in Calexico on Dec. 11, 12, and 13, was one of the best in recent years. The weather was perfect in Imperial Valley and local arrangements were of the best. Beekeepers from several states and from Canada were present and the out-of-state speakers, Mrs. Grace, Mr. Glenn Jones, Mr Remer, and Dr. McGregor added greatly to the value and interest of the meetings. The entertainment and the banquet were enjoyed by all and no one missed the opportunity of visiting Mexico, just across the border. One feature of the convention was the exhibit of portable extracting equipment of Mr. Miles and Mr. Mandrapa in the octagonal honey house of Mr. Shephard. With such equipment a 4-man crew can extract 100 or more 60-lb. tins of honey in a normal working day and have the supers back on the hives within a few minutes after the honey is removed. The convention missed the presence of Mr. Cary W. Hartman who has been a most helpful influence to beekeeping in California for many years. His friends will be glad to learn that he is recuperating at his home in Oakland. To each of his many friends he wishes to extend through this column his best wishes for a successful, healthy, peaceful, and happy New Year.—J. E. Eckert, Davis, California.

### TEXAS, January 6

**Weather:** The past month was warmer than usually, with no frost in the southern portion of the state up to the Christmas season. The last week in the old year brought severe and prolonged cold weather with frost covering the entire state and sub-zero temperature in the northern portion. Most of the state had abundant late fall rain with favorable soil moisture at the present time. The Lower Rio Grande Valley and some other areas in the southwest have had a drought of long duration and rainfall is greatly needed.

**Plants and Bees:** Native trees and shrubs made good growth during the fall and should be in excellent condition for a spring bloom. Early spring annuals are well advanced with wild mustards, buttercups, and Mexican poppies in bloom at Christmas time and bees were observed on the blooms. The recent cold weather ended the bloom but the plants are uninjured and the usual spring bloom may be expected. Horsemint looks particularly promising with numerous young plants, some of which are several inches in height, although the blooming period is not due until late in April. Since there was no satisfactory fall honey flow throughout most of the state, stores are less plentiful than last winter. Most colonies, however, are normal except in areas of prolonged drought and colonies from late increase, which require feeding.

**Market:** The supply of honey in the hands of the producers and on the retail market is becoming increasingly scarce. One-pound glass

retails at 45c to 47c on the local market.

**Miscellaneous:** The Lower Rio Grande Valley beekeepers held their last meeting on December 19. This is a very active association, with a large membership and several well attended meetings are held each year. With numerous problems which may be expected in an intensely cultivated area heavily populated with bees the Association has a record of harmony, cooperation, and effective disease control. Queen breeders and package bee producers are making preparations for a record year and most shippers are booked to capacity. The problem of obtaining bee supplies will probably remain acute during the coming year. Last year some beekeepers bought additional apiaries at a good price, not for increase in colonies, but for use of additional equipment. A good many Texas beekeepers have indicated their intention of attending the joint convention of beekeepers at Tampa, Florida, and a good representation for Texas may be expected.—A. H. Alex, San Antonio, Tex.

## MANITOBA, Dec. 28

**Weather:** It is 10 degrees below zero this morning and somewhere in this neighborhood has been the usual thing since the latter part of November. Yesterday I had a letter from my friend Millard Coggshall in Florida where it hovers around 75° above at this time of year. Beekeepers who keep bees in the North during the summer and in the South during the winter really have something. We have a lot of winter ahead of us so there is no telling what wintering results might be. The flow cut off so early last fall that I expect many colonies will be low in stores.

**Honey Plants:** A few days ago I checked past crop reports for records of sweet clover acreage. The reason for lower yields per colony is obvious. During the five year period of 1936-'40 there was an average of 493,000 acres of sweet clover in Manitoba. During the five year period of 1941-'45 the average was 177,000 acres. Although alfalfa has more than replaced the sweet clover it does not produce big crops here. Beekeepers certainly hope that the swing away from sweet clover doesn't carry too far. Several factors have contributed towards this trend, including melilot taint of wheat, coumarin effect on cattle, root rot, and, probably most important, the sweet clover weevil. At a recent agronomists' conference we had the encouraging statement from entomologists that surveys have revealed a very marked drop in weevil population during the past year. Weather factors were considered to be responsible.

**Market:** Ceiling prices are still supposed to be in effect and honey is still on the ration list. With a ceiling price in effect on honey and none on packages, beekeepers are in rather a precarious position in this package buying area. Many who have never wintered wish that they knew a little more about it. Ceiling price to consumers for number one honey in glass is 25c for 1-lb. containers, 48c for 2-lb., and 92c for 4-lb. containers. For the same honey in other containers ceiling price is 24c, 45c, and 88c.

**Miscellaneous:** The Manitoba Beekeepers' Association held a very successful convention November 11 and 12. About 200 attended with several out of province visitors on hand. Dr. Mykola Haydak contributed much to the program with a talk during the convention and as guest speaker at the banquet. Panel discussions were an important feature of the program with the ladies providing an interesting panel on "Honey in the Home".

Several resolutions were passed. These included a resolution approving the grading of all honey sold within the province. At present only exported honey is graded. The problem of sulfa drug control for AFB was also thrashed out and although all that is claimed for sulfa was generally recognized, a resolution was passed that the association does not approve of any relaxation in government efforts to eliminate the disease. In other words, they were playing safe in requiring that beekeepers do not have AFB showing in the hive regardless of how they keep them clean.— E. C. Martin, Provincial Apiarist, Legislative Building, Winnipeg, Manitoba.

**NEW JEF . Dec. 29**

**ather:** Conditions during the past autumn were exceptionally favorable for bee flight and bees took full advantage of it to get a good supply of winter stores as well as some surplus. This was sorely needed as many colonies as reported in November Gleanings, were exceedingly short of stores in August. Frosts held off till asters and other fall nectar producers had finished blooming. This resulted in late brood rearing where queens were not too old, making colonies well supplied with young bees. Pollen supplies are not as abundant as could be wished. The late fall has been favorable for a good growth of clovers. However, there is a lack of ground moisture—so much so that some wells have gone dry.

There is no snow cover at this time and unless considerable rain falls before a "freeze-up", or there is plenty of snow this winter to provide ground moisture, this condition will be unfavorable for clovers in spring. There is much interest in Ladino clover and nearly every farmer, particularly dairymen, of which there are a great many in the state, has planted some. How this will affect the honey crop remains to be seen. Such reports as are available regarding Ladino as a honey producer are rather indefinite. One thing is certain. It is a profuse bloomer. One field was seen white with blossoms from midsummer till early fall.

**Market:** The market situation is as crazy as ever. Demand is ahead of supply. No honey in producers' hands except what they have held for their private trade. As much as 79 cents is being asked for one pound jars at one grocery.—Elmer G. Carr, Pennington, N. J.

**NEW YORK, December 30**

**Weather and Honey Plants:** We have had an unusually mild fall and there has been less snow and cold so far this winter. The less than normal rainfall the past three or four months may result in a harmful condition for honey plants next spring, but new seedlings of clover looked excellent prior to killing frosts. However, plants looked good the past two years and a poor crop was secured so I've given up predicting a good crop and just hope each year for one.

**Condition of Colonies:** Many colonies went into winter quarters somewhat lighter than usual. Owing to mild weather they reared more late brood and this required a lot of honey. While packing we found colonies noticeably lighter than when they were weighed a couple or three weeks earlier. Very little brood was pulled and thrown outside since practically all of it hatched after queens stopped laying. As a result most colonies have a larger than average number of young bees to carry them through the winter. Some feeding will undoubtedly be necessary next spring and we plan to unpack early in order to do this. On December 10th in one yard bees were gathering pollen quite freely. There were two kinds of pollen coming in, apparently from late dandelions and witch hazel.

**Honey Crop:** Like many other states New York fared badly the past season. August was such a cold cloudy month that bees were unable to gather nectar from buckwheat . It is impossible to determine why clover was a failure; for some reason, or reasons, it secreted almost no nectar.

**Miscellaneous:** It is to be hoped that the present high prices and small crops will not seriously damage the honey market for the future by causing companies to discontinue its use now and perhaps not resume consumption when prices and supplies are normal. Of course, it is very gratifying to receive these prices in view of the short crop and high cost of production.

Many newcomers are trying to get into commercial honey production, but are handicapped by shortages of both equipment and vacant territory. These shortages are also hampering established beekeepers in maintaining or increasing production. In spite of the disappointing season just completed we are looking forwerd to 1947 and a chance to try some new ideas which may make the work a little faster and easier, and of course, we're hoping for that bumper crop.—William L. Coggshall, Ludlowville, New York.

**SOUTH CAROLINA, Dec. 30**

**Weather:** November and December have been unusually warm with very few days that the bees could not fly. In some localities there is a great deal of brood—in fact, in most colonies some brood is found.

**Conditions:** Aster, goldenrod, and fall flowers yielded very little, if any, nectar. Since the weather has been so warm and brood rearing has continued using up stores, it is a guess how bees will winter. A number of hives went into winter short on stores, and unless these are fed they will come through the winter in a very weakened condition if they live at all.

I believe that there will have to be more feeding in this state than ever before. Of course, this situation will not exist where a good beekeeper has taken care of his bees properly in the fall.

**Miscellaneous:** Honey has been so easy to sell and at such good prices that the farmer beekeeper took off all his surplus honey, expecting to winter bees on the aster and goldenrod which did not yield enough to carry them through the winter.

However, today I noticed the bees working on camellia japonica. We also have one of the jessamine and the white narcissus blooming at this time. This is the earliest I have ever seen the above named plants blooming. But I feel sure that we are going to have plenty of winter weather during the next two months.—E. S. Prevost, State Bee Specialist, Clemson, S. C.

**IOWA, January 7**

**Weather:** The winter in Iowa was mild until after Christmas when two severe storms passed over the state. Fortunately there was not much ice and snow, although it did drift in some areas. The temperature went well below zero over the entire state. It is hoped that colonies of bees which are outdoors are carrying on satisfactorily. Reports indicate that bees are wintering well. However, there are also reports that many colonies went into winter quarters decidedly short on stores. The amount of low temperatures then would have a direct effect on the consumption of stores and the survival or not of colonies during the actual winter period. A shortage of stores is hard to combat, since honey supplies have been depleted and sugar supplies are definitely restricted. The problem will be whether to give the sugar to wintered over colonies very early in the spring or to save it for the installation of package bees. It is quite probable that more beekeepers will depend on package bees for honey production in '47 than during the last few years. The shortage of stores in the fall and the resultant consolidation of colonies was the beginning of such a program.

**The Goals Program** set up by the Production Marketing Administration has been received and the Extension Service of Iowa State College has undertaken to carry this program to the field in a more effective manner than was done in 1946. The number of colonies operated was increased only 10 percent instead of the 18 percent which was requested of the producers in Iowa. However, the weak point in the program of 1946 was the failure to fully employ the colonies for most effective pollination. The Extension Service has a program developed to carry to every county agent the fact that this Bee Goals Program is a pollination program and not a program for increasing colonies for honey production. The emphasis this year will be placed definitely on the pollination phase of this Goals Program.

The results of demonstrations in 1946 indicated an increase of 100 to 150 percent in red clover seed production wherever bees were available in accordance with recommendations. These recommendations are a large number of bees in or adjacent to the field to be pollinated. The competition of other honey plants, together with prevailing weather conditions, makes it necessary to have a large number of bees to provide proper pollination for red clover fields. It has been shown definitely that one-fourth mile is the extent of the effective pollination flight. Tests show that beyond this the seed set is reduced materially and beyond three-fourths of a mile

there is very little seed set over natural, and at a mile from the apiary there is practically no increase in the normal seed set, which is exceedingly small.

**Miscellaneous:** The year of 1947 looks as if it would pay dividends on good management for beekeepers. Expenses of production are certain to be higher than they have ever been in the history of the industry. Every item which will go into production — bees, queens, labor, sugar, trucks, tires, etc.—have increased materially even over 1946. The questionable market situation means that it will not be possible to put too much into production. This will be a season when every effort should be made to increase efficiency of production and thereby reduce the unit cost of production. It has been shown in Iowa that fewer colonies better managed will give a greater total return than many colonies poorly managed. It is not a matter of bottom boards operated, but of supers which are filled with honey.

Fruit schools were held in the western part of the state at Council Bluffs and Sioux City and a series of like schools will be held in the eastern part of the state at Burlington, Davenport, Dubuque, and Cedar Rapids. These fruit schools this year provide a discussion of pollination services of bees as a means of increasing fruit set and the returns to the orchardists. Fruit growers generally are alert to the value of bees but in many instances are refrained from use of bees because they are unfamiliar with some of the details of successfully bringing together the bees and the fruit bloom.—F. B. Paddock, Ames, Iowa.

**COLORADO, January 7**

This will have very little value for the section of your magazine for which I am supposed to be writing, but may serve to show why it is so written.

The telegram requesting these notes intercepted me only yesterday here in Kentucky.

My family is joining me in what seems to be for all of us a much earned vacation. We left Grand Valley the 21st of December and have scarcely thought of the place since. We have visited friends, both in beekeeping and out, as well as a host of relatives in eight states so far and are right now engaged in seeing points of interest to us in the beautiful state of Kentucky. Some of the high spots we have touched here are the place where Stephen C. Foster wrote "My Old Kentucky Home", Lincoln's birthplace, and the Mammoth Cave area which to our surprise contains many beautiful caves as well as the huge and historic Mammoth Cave. Besides that our children today rode their first ferry, saw their first cardinal (red bird), and ate their first turnip greens. The greens were not a success.

We are, of course, on our way to Tampa where we will spend a week to include the meetings of the Federation and allied organizations Jan. 13-17.

After that week we plan to return home by way of the Gulf states visiting several queen and package shippers enroute. We plan to stop at the U. S. Bee Culture Laboratory at Baton Rouge, having already taken in the Central States Laboratory at Madison, Wisconsin, and spent New Years with Dr. Farrar and family there.

We expect to arrive home in Grand Valley about February 1, rested from most everything but eating and driving, and ready to begin a new bee season primed with dozens of ideas picked up along the way.

It might be well to note that we left conditions at home about the best we have ever seen them. Bees wintering well with good clusters and ample stores to carry them into the dandelion flow at least. Soil moisture is the most satisfactory we have seen it for years with a good supply of snow in the mountains which should provide the irrigation water we depend on for our summer crops.

Although prices are certain to be lower in '47 we can still look forward to the big crop we didn't get in '46.

When this is being read I hope we can both say: "I talked to him at Tampa".—John W. Holzberlein, Jr., Grand Valley, Colo.

## VIRGINIA, January 9

**Weather:** The fall weather was unusually good for bees and bee work. It was the middle of December **before** any cold weather. Bees were able to gather the last drop of nectar from aster and other fall flowers, as almost every day was warm and fair. In sections where fall flowers were plentiful strong colonies filled their hives from top to bottom. However, in some other sections of the state beekeepers had to feed all the sugar they could get. The weather since Christmas has been cool and rainy, but no snow yet. Bees have not had a flight in several weeks but seem to be wintering well.

**Honey Plants:** Honey producing plants appear in fine condition. Clover seems to be more abundant than in several years. This should be the year that sourwood should pay off as it has been on the non-production list for about four years.

**The Honey Crop:** The honey crop in Virginia in 1946 was somewhat smaller than for several years, except for a few sections, where there was a fair crop from sweet clover and blue thistle. Excessive swarming cut the crop in some of the apiaries that were run for section comb honey. However, one section producer made an average of 75 No. 1 sections on 800 colonies run in eight frame hives. There is not much honey in the hands of the beekeepers. Most of it was sold before December 1, 1946.

**Miscellaneous:** Beekeepers have begun looking around for cheap bees and equipment that are free from AFB. Some increase in number of colonies of bees are being planned by several large beekeepers. The beekeepers that I have heard express themselves believe that honey will bring a fair price in 1947 but not quite as high as in 1946. They also believe we should raise more honey than we now produce in our state.

The Virginia State Beekeepers' Association will hold its annual winter meeting early in March. All members will be notified.—Henry W. Weatherford, Vernon Hill, Virginia.

## ONTARIO, January 7

**Following** three months of milder weather than usual, since **December** came in we have had quite a cold period to date. On three days we have had slightly below **zero** temperatures and at this time we have about a foot of snow on the level with greater depths around fences and other obstructions, and this of course applies to apiaries that are in most cases quite well banked up with snow.

But zero or below that point is quite normal for us here in southern central Ontario and bees have not suffered as yet from any abnormal weather condition. As mentioned in former notes clusters are unusually small in many colonies, but as nothing can be done about this condition at present, there is no use of worrying or speculating as to what the outcome will be by next spring.

**Market:** As intimated in our last report, marketing conditions are more of a negative proposition than a positive one, as there is almost no honey for sale in our local markets including cities like Hamilton and Toronto. At our recent convention held in Toronto, well attended even if the honey crop was a failure in most of the Province, we were informed that some honey was being brought in from our three western Provinces. This may be so but the writer has not been privileged to see any of this honey as yet.

At this convention, while speaking with many producers, we were struck with the unanimity of the beekeepers in describing their greatest concern which is not that of markets present or prospective, but the question of bee pasturage. Beyond doubt this is a very serious problem and the worst feature about it is that no one has any real solution to offer to better conditions.

**Miscellaneous:** **Unless** things change for the better in the very near future, many beekeepers will be forced to move to new locations or go out of business. WHERE to move—that is a problem.

These notes will be used in February issue of Gleanings and by that

time spring problems will be more in evidence, and many will be stimulating their colonies by the latter part of the month by feeding artificial pollen, etc. The views of the writer are pretty well known to many, and two or three years ago when he took issue with the plans advocated, he was held up to ridicule by certain advocates of this early stimulation idea. Well, we have not changed a bit from our stand and we still claim that feeding artificial pollen, etc., in late winter and early spring here in **our locality**, is not only a waste of time and money but absolutely harmful in many cases. And strange to say we cannot find a single commercial beekeeper here in Ontario who has any use for the plan. Certainly there are likely to be some but we have not met them.

At our recent convention, we asked a great many about their ideas on this matter and all had the same answer. One well known extensive apiarist told me that he fed a lot of artificial pollen early in the season and with him it was case of "never again". For the past two seasons Mother Nature took a hand in early stimulation and colonies were strong far too soon for the honey flow and we all know what happened. Bees were not as strong by June 10th as they had been on April 10th.

There are many things that we are not sure about in regard to beekeeping but one thing we are sure of is that nearly all normal colonies reach their peak at some time and we personally like to have as many as possible reach that peak just previous to the main honey flow. Abnormally strong colonies too early quite often supersede their queens when a main flow comes on and generally speaking are not the best colonies when it comes to piling up a large surplus. It is quite possible that a beekeeper with a few colonies can stimulate early to advantage, but we surely feel that it is not a practice that will ever be used in large apiaries in our locality.—J. L. Byer, Markham, Ontario.

## Georgia Beekeepers

**Addressing the annual meeting of the Georgia Beekeepers' Association October 24-25 at Jesup, Georgia. Left to right: A. S. Blanks, Valdosta, beekeeper; A. V. Dowling, Valdosta, State Apiarist; Paul M. Gilmer, Tifton, Entomologist, Coastal Plains Experiment Station; J. F. Reinhardt, Tifton, Apiculturist, Coastal Plains Experiment Station.**
**—Photo by Broadhurst, Jesup**

# American Honey Institute News Notes

By Harriett M. Grace
Madison 3, Wisconsin
Commercial State Bank Building

At least once every month the **American Honey Institute** sends releases to over 1500 newspapers, magazines, and radio stations. Each newspaper and magazine has many readers; each radio station has many listeners. Thus the circulation of our releases is multiplied many times. These releases contain recipes designed to fit the need of the homemakers. Some of the recipes are old favorite ones; some are new favorites; but all call for honey as one of the main ingredients. Every homemaker who listens to her radio or reads her newspaper or glances through magazines sees honey recipes featured. Each month she finds a new way to use this nutritious sweet. With each release, she is given an incentive to buy more honey in order to try the tempting dishes that are described. The support of each member of the **American Honey Institute** is necessary to provide this service to the homemaker, and the greater service of increasing the demand for honey.

* * * * *

Among the hundreds of requests for recipes and information that we have received recently are those from the director of the home service department of a gas and electric company, the director of an organization devoted to culinary arts, and a branch of the U. S. O.

* * * * *

Why do people buy things? It seems like a simple question, but it is a very important one to any one who has anything to sell. Of course, the obvious answer is because they need the item in question. From among several things which could satisfy their need, why do they select one specific item? Because its extra advantages make it their best buy. People need sweets. There are several products which could fill that need, but the unmatched flavor and bouquet of pure honey, its tempting colors, the various convenient forms in which it can be obtained, and its nutritional and therapeutic advantages make honey the best buy. **The American Honey Institute** makes potential buyers by keeping them informed of the advantages offered by honey.

* * * * *

The **American Honey Institute** thanks its members who have contributed honey for the research which is being carried on. We feel that this is a very vital part of our service to you, and of great value to the honey industry. This age of science demands proof for all statements. The goodness of honey which has been recognized since ancient times is now being put on a scientific basis. The proof of the flavor of honey is still in the eating, but the proof of its nutritional and therapeutic aspects, which are so important to the careful food buyer, is the problem of research.

* * * * *

Your product is attractive, clean, and pure.

Make your profits attractive and your market secure.

"Paw got the swarm all right, Maw!"

# Story of the Illinois Cook-DuPage County Association

**By A. G. Gill**

A good record—this is the story of a beekeepers' association which had its inception in the mind of a student of beekeeping. Under the impetus of his driving zeal it could not fail to grow. Impelled by serious need of united effort to secure more aid from the state for beekeeping, the difficulties of organization were gradually overcome. With a good beginning and good leadership available, this organization has flourished and been influential in helping to secure necessary revision of state laws, sizeable appropriations for beekeeping, and inspection of bees in the state. Through its demands, in considerable measure at least, our state appropriation for bee inspection has been gradually increased to $35,000 and more per biennium, and our state laws made to control movement of bees and used equipment into and within the state to support the inspection program.

This association has at times joined with neighboring associations in field meetings thus increasing interest in each association. It has sponsored summer meetings of our state association to the benefit of its members as well as other beekeepers of the state. It has not overlooked affiliation with the National Federation as a recent Federation News Letter shows. It has encouraged entries and displays at our local and state fairs. Its members have responded with a variety of displays and exhibits. It has arranged for and planned trips to visit the government Bee Culture Laboratory at Madison, Wisconsin, to observe the work done there under Dr. C. L. Farrar, in charge, and learn his methods of beekeeping for larger production developed and tested there. Several trips by groups of twelve to twenty members have been made in early morning drives to allow full days there. In this association our state association has found leadership schooled to render larger service, including several presidents, secretaries, and other officers.

The present president of our Illinois State Beekeepers' Association, Mr. E. A. Meineke, previously served this association well, first as secretary and then as president. In the mind of a member of this association was born the idea of a standard size of caps for sixty pound cans. His idea, first cradled by this association and pushed forward with its endorsement by this member, has been endorsed by our state association and passed on to the National Federation, where it is bearing fruit and we expect will remain until standard caps for sixties is fully a reality.

The student of beekeeping was Mr. Samuel Cushman who was born in Rhode Island in 1858. Mr. Cushman taught beekeeping in Rhode Island Agriculturai College for a time and later in Baltimore conducted a beekeepers' study club through several seasons. Coming to Chicago late in 1920 he came to the writer proposing that we undertake to start a local association. His efforts met with approval and success. Mr. Cushman accepted the office of president for only two terms, but continued a very active member until he left us in death in 1933. The member of standard cap fame is Mr. Adolph S. Carm, who, it happens, is the present worthy president of this association.

This association began as the Cook County, Illinois, Beekeepers' Association. Within a few years beekeepers of Dupage County, which indents into Cook County and with it comprises a workable block of territory, requested the privilege of joining with the Cook County Association.

This association did not sprout wings and grow of itself more than others do. There was "ground work" and "spade work" to do. It is true that there was a need for beekeeping information and a pent-up demand for public action and help. It is true too that numbers of us did help, but the principal credit belongs to Mr. Cushman. I recall going with him several times at midnight in downtown Chicago, to the different metropolitan newspapers, to call on City Editors to ask them to run a notice of our meeting to be held the next day.

In the early meetings in the first summer, President Cushman asked that we provide some light refreshments—lemonade and cookies—as a gesture toward sociability and good feeling. The early meetings were

**LEADERS OF THE COOK-DUPAGE ASSOCIATION**
**Left to right: A. G. Gill, Director; Gun Mozee,, former Director; Ellsworth A. Meineke, State President; Adolph S. Carm, President; A. J. Smith, Secretary ;Ralph O. Klebes, Vice-President. Seated: Mrs. A. G. Gill, Mrs. R. O. Klebes, and Mrs. A. J. Smith, Hostesses.**

held at the homes of beekeepers who were quite receptive to this new movement and a succeeding host saw to it that this idea of refreshments was bettered considerably. For some years it seemed to be a contest among our good women as to who could excel in her contribution to a common table. Later the Association has seemed to be something of a school for the women in which they discuss and exchange recipes which are often tested out as a contribution to the table at a next meeting. The build-up of this has been an interest in preparing many exhibits made with honey for culinary and other contests at local and state fairs. We see our women thus schooled for service in the Auxiliaries of the State and National Associations in which they take their part.

The summer meetings have generally been held at beekeepers' homes or apiaries, but sometimes in public preserves or parks. Through the months of cold and questionable weather the meetings are held in public field houses or assembly rooms of other organizations of which there are several such rooms freely available to us. Attendance at these meetings through the years has fluctuated above and below one hundred persons with the number frequently considerably above this number. The annual meetings came in good time to be dinner meetings and later have graduated into real banquets with elaborate programs and they rival the annual meetings of the best state associations

**Mr. L. P. Baker, Glencoe, Ills., one of the Directors of the Cook-Dupage Beekeepers' Association.**

The program of our meetings are presented in part, at least, by home talent. We can always count on our members to take part in talks about conditions and prospects for bees, their methods of beekeeping, and kindred subjects. We have through the years had much help from outside our ranks. We have found leaders in beekeeping, in fact, eminent leaders and scientists of national reputation with interest in bees—from other states and from foreign countries, travelling here, and have had the benefit of their prsesnce with us.

Such is some of the record of Cook-DuPage Beekeepers' Association which is now celebrating its twenty-sixth anniversary. All in all, it has been great to be a part of this association of grand beekeepers, which organization we count about the best local association in America.

# Buy and Sell Here

## CLASSIFIED ADS

Only responsible advertisers and honest advertisements will be admitted to these columns. References required from new advertisers not known to us. Rate: 10 cts. per counted word, each insertion. Each initial, each word in names and addresses, the shortest word such as "a" and the longest word possible for the advertiser to use, as well as any number (regardless of how many figures in it), count as one word. Copy should be in by the 10th of the month preceding.

### HONEY FOR SALE

WE BUY AND SELL all varieties of honey. Any quantity. Write us for best prices obtainable. The Hubbard Apiaries, Manufacturers of Bee Supplies, Onsted, Mich.

FOR SALE—Fall honey in 60's, 32c lb. Roy Baxley, Christopher, Illinois.

### HONEY AND WAX WANTED

BEEKEEPERS TAKE NOTICE—We can not guarantee honey buyers' financial responsibility, and advise all beekeepers to sell for cash only or on C. O. D. terms except where the buyer has thoroughly established his credit with the seller.

WANTED—White and amber honey, any amount. D. F. Treap, 316 Keenan Ave., Cuyahoga Falls, Ohio.

HONEY & BEESWAX—Highest prices paid. Mail samples. Advise quantity. BRYANT & SAWYER, LOS ANGELES, CALIFORNIA.

WANTED—EXTRACTED HONEY—Clover or light amber. C. H. Denny, 483 Moody St., Akron, Ohio.

HONEY WANTED—CARLOADS ONLY. WHITNEY HONEY COMPANY, PUYALLUP, WASHINGTON.

CASH FOR YOUR HONEY—Extracted or comb. Regular trade, send sample. 60-lb. cans furnished if desired. W. R. Moomaw, Stone Creek, Ohio.

HONEY WANTED—All grades. Carloads or less. Also beeswax. Pay top prices. H. & S. Honey & Wax Co., Inc., 265-267 Greenwich St., New York 7, N. Y.

HONEY WANTED—All grades and varieties. Highest cash prices paid. Mail samples. State quantity. HAMILTON & COMPANY, 1360 Produce St., Los Angeles, Calif.

WANTED — Clover extracted or comb honey, any quantity. C. Jankowski, Prairie View, Illinois.

WANTED—Honey, extracted or comb. Mail sample, quote price. SEIFERT & MANN, 106 South Water Market, Chicago, since 1889.

WANTED—Beeswax. Will pay premium price. Chas. Kuderka, P. O. Box 267, Rock Island, Ill.

WANTED—Light extracted honey, clover preferred, in 60's. J. Jones, 115 W. 82nd St., New York 24, N. Y.

SOUTHERN HONEY WANTED — Many big southern honey producers have sold all of their grades of honey to the ALEXANDER COMPANY for years. Our dealings will bring you back year after year. Try us. A reputable firm of long standing. THE ALEXANDER COMPANY, 819 Reynolds Road, Toledo, Ohio.

### FOR SALE

500 new wooden honey cases (60's). L. Depew, Auburn, New York.

QUEENBEE PAINTING OUTFITS, $1.00; colony records, 10-15c postpaid. Southwick Apiaries, Waban, Mass.

HONEY LABELS — Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples and prices. C. W. AEPPLER COMPANY, OCONOMOWOC, WIS.

WRITE FOR CATALOG — Quality Bee Supplies at factory prices. Prompt shipment. Satisfaction guaranteed. The Hubbard Apiaries, Manufacturers of Beekeepers' Supplies, Onsted, Mich.

WRITE FOR LOW CASH price glass jars and 5 lb. tin pails. Complete stock. Prompt shipment. Roscoe F. Wixson, Dundee, N. Y.

YOUR WAX worked into high grade brood foundation for 22 cents a pound; 100 pounds, $18.00. Fred Peterson, Alden, Ia.

We carry a complete stock of bee supplies and honey containers. Write for our price list. Prairie View Honey Company, 12303 12th St., Detroit 6, Mich.

SIMPLEX TRAP clips queens without handling. $1.75 postpaid. INSTANT FRAME SPACERS, seven-eight-nine. Fast—accurate. $1.50 postpaid. Free circulars. George Leys, 48 Drake Ave., New Rochelle, N. Y.

NOTICE PACKAGE BEE MEN
We can supply you any number of 3 lb. shipping cages made of poplar with binding strips and nails less wire and cans. KD F. O. B. Sylvester, Ga. at 25c each in lots of 100 or more. Write Hyland Apiaries, Sylvester, Ga.

FOR SALE—Beekeeping outfit. 40 hives of bees mostly Dadant 11-frame; several 10-frame standard; supers for 200 pound crop; 20-frame radial extractor with motor; 3-frame hand extractor; and numerous other equipment all in good condition. Certificate of inspection furnished. Reason: Other work taking all my time. Priced for quick sale. Andrew Stofka, 5729 Flowerdale, Ave., Cleveland, Ohio.

ROOT 2-frame reversible extractor; ROOT 4-frame reversible extractor with Simplicity type power drive; Woodman 4-frame non-reversing extractor. The Tully Apiaries, Box 183, Aitkin, Minn.

FOR SALE — Standard 10 frame bee hives. New, made of best grade yellow poplar, the material we have used for years. With frames and flat tops covered with galvanized or aluminum sheets, $4.00 each, K. D. in lots of five F. O. B. West Elkton, Ohio. 100 Sets cypress 10-frame reversible bottom boards and reversible cypress wood covers, new, nailed, and painted, $2.25 per set F. O. B. Sylvester. Several hundred standard 10-frame hive bodies, used but good, no disease, at $1.00 each. 750 sets 8-frame good clean used telescope covers with inner covers and reversible bottoms at $1.75 per set F. O. B. Apalachicola, Fla. Write Hyland Apiaries, West Elkton, Ohio.

FOR SALE—1000 colonies in ten frame hives in Wyoming. Queen excluder and three shallow supers with each hive. Guaranteed free from disease. Address Wyoming care of Gleanings, Medina, Ohio.

FOR SALE—400 five frame colonies, $10 each. Ready May 1st. Also 400 colonies with extracting equipment and packing cases. Inspection certificate furnished. Gordon C. Pratt, Munnsville, New York.

FOR SALE—40 6-fr. mating hives 10 x 10 inches. Telescope covers, metal tops. $1.00 each. A. E. Crandall, Berlin, Conn.

MAGAZINES FOR SALE—Gleanings in Bee Culture, 1920 to 1944. American Bee Journal, 1920 to 1944. All in fine condition. Best offer will take them. A. Augenstein, Dakota, Ills.

FOR SALE—150 colonies of bees. Factory made 10-frame. Wintered 2 full stories. Two full depth supers for each colony. Certificate furnished. $25.00 or best offer by April first. John Tideswell, 2711 North 63rd St., Omaha, Nebraska.

FOR SALE—Hive bodies with frames, new KD with solid bottom bars, long top bars at $2.00 each, lots of five. Made of poplar lumber. 2000 new frames split bottom, long top bar, Kelly mfg. at $10.00 per 100, F. O. B. Apalachicola, Fla. All sizes non-sag medium brood foundation with correct angle cell base at 85c per lb., 10-lb. lots or more. A few Modified Dadant hives and hive bodies left, $2.50 for the hives and $1.25 for bodies only. Used but good. 200 good Modified-Dadant hives built with 4" double packed walls, loose cypress double bottoms with 3" packing, no frames, $5.00 each. New frames for the lot at 10c each. Ideal hives for permanent locations. Gasoline driven 2500-w. A. C. 115-volt electric plants at $210.00, suitable for operating standard electric motors, saws, and lights; ideal for honey houses and shops. Operate up to 3 h.p. load. Hyland Apiaries, West Elkton, Ohio.

On account of leaving state must sell in February 60 two-story colonies of bees, all young queens. All wrapped, ample honey for winter and spring. Equipment standard and well painted. No AFB. Certificate of inspection furnished. February price $25.00 each. Owner RR 2, 7710 Richardson Rd., Walled Lake, Michigan.

32 hives, fair to good condition, 1½ story, 40 extra shallow supers, 150 extra frames, shallow, 20 lbs. foundation; all for $700. Bee diseases unknown here. W. Hayne Roberson, Pikeville, Tenn.


**HONEY WANTED**
Carloads and less than carloads. Mail sample and best prices in all grades.
**C. W. AEPPLER COMPANY**
Oconomowoc, Wisconsin

**HONEY WANTED**
**FOR EXPORT AND DOMESTIC**
**All Grades - Any Quantity**
**Foreign Commodities Corp.**
100 Hudson Street
New York 13, N. Y.

**Michigan Clover Honey Producers**
Ask for a NEW SYSTEM. Ask for higher prices for your 1947 crop of MICHIGAN clover honey. Do not promise your 1947 crop of Michigan clover honey without first getting the Northstar plan. You will be pleased that you did. Yours for this coming season's business.
**Townsend Sales Company**
Northstar, Michigan

**WANTED: Extracted Honey All Kinds**
One can or a carload—what have you? Mail your offerings and samples to us. Prompt action. Cash on delivery.
**JEWETT & SHERMAN COMPANY**
Lisbon Rd. & Evins, Cleveland 4, O.
1204 W. 12th St., Kansas City 7, Mo.

**Honey and Beeswax Wanted**
We are ALWAYS in the market paying best market prices
Send for our 1946 price list on bee supplies
Doing business since 1858
**The Fred W. Muth Co.**
229 Walnut St., Cincinnati 2, Ohio

**HONEY LABELS**
Improved designs, embodying color, balance, simplicity, and distinction. Please send for free samples & prices.
**C. W. AEPPLER COMPANY**
Oconomowoc, Wisconsin

**1947 PRICES 1947**

**Highest Quality Package Bees**
**Select Three-Banded Italian**
**Queens of our Own Production**

| Quantity | 1-11 | 12-99 | 100-up |
|---|---|---|---|
| 2 lb. pkg. w/q. | $4.35 | $4.20 | $4.00 |
| 3 lb. pkg. w/q. | 5.35 | 5.20 | 5.00 |

All packages shipped Express Collect. $1.00 per package will book your order.

QUEENS, less than a dozen, $1.50 ea.; 12 to 99, $1.35 ea.; 100 or more, $1.25 ea. Parcel Post Prepaid.

Full Weight Packages Young Laying Queens Live Delivery and Satisfaction Guaranteed

**JOHN C. HOGG, Apiarist**
Tifton, Georgia

Due to the continued rise in the cost of production we have found that the following prices are the lowest at which a shipper can sell and still realize a fair margin of profit.

Prices from April 1st to June 1st:

| | Qns. | 2 lbs. | 3 lbs. | 4 lbs. |
|---|---|---|---|---|
| 1-24 | $1.40 | $4.50 | $5.85 | $7.20 |
| 25-99 | 1.30 | 4.25 | 5.55 | 6.85 |
| 100-up | 1.20 | 4.00 | 5.25 | 6.50 |
| Prices after June 1st: | | | | |
| 1-24 | $1.10 | $4.20 | $5.55 | $6.90 |
| 25-99 | 1.00 | 3.95 | 5.25 | 6.55 |
| 100-up | .90 | 3.70 | 4.95 | 6.20 |

For queenless packages deduct price of queen. Packages F. O. B. Jeanerette. Queens Prepaid
Booked to May 20th

**THE RICH HONEY FARMS**
Jeanerette, La.

**Honey Containers**

| | |
|---|---|
| 1 lb. jars, carton of 24 | $0.90 |
| 2 lb. jars, carton of 12 | 0.55 |
| 5 lb. jars, carton of 6 | 0.50 |

**Clifford H. Denny**
483 Moody St., Akron 5, Ohio

**SOY FLOUR—POLLEN TRAPS**
**BREWERS YEAST**
**AND DRIED MILK**

Also our famous K & S Pre-Mix Pollen Supplement. We are distributors of Staley's Lo-Fat High Protein expeller processed soy flour for beekeepers.

KILLION & SONS APIARIES
Paris, Illinois

**ELECTRIC UNCAPPING KNIFE**
**QUEEN TRANSFERRING TOOL**
Pierce Patents

**Macy Electric Knife Co.**
6729 Seville Ave.
Huntington Park, Calif.

FOR SALE—Michigan honey producing establishment US-16 between Detroit and Lansing. 9 acres. 8-room modern home. Large honey house. Poultry house. 4-room income cottage. Acre orchard. 200 colonies bees. Certificate of inspection furnished.. Cottage and bees optional. Write for particulars. Don Barrett, Howell, Michigan.

FOR SALE—Bee frames, standard size, grooved top bar, only $80.00 a thousand. Harold L. McDaniel, Polson, Montana,

FOR SALE—400 hives of bees, 10-frame. Sell all or part. Requeened in '46. Guaranteed no disease. Health necessitates selling. Write Walter Weldon, Moorhead, Iowa.

FOR SALE—Used bee supplies, all modified, factory made, good condition. 500 hive bodies, at 65c; 4000 deep frames boiled in lye, at 3c; 2000 supers, at 45c; 10,000 shallow frames boiled in lye, at 2c; 100 metal telescope covers, at 65c; 100 inner covers, at 15c. Will trade for package bees. Special prices in truck lots. Melford Olson, Red Lake Falls, Minnesota.

FOR SALE—75 colonies, central Missouri. Reasonable. Health certificate furnished. Box A. A., Gleanings, Medina, O.

## BEES AND QUEENS FOR SALE

Gleanings cannot guarantee that all bees advertised for sale in its classified columns are free from disease. We use all possible care in accepting advertisements, but we cannot be held responsible in case disease appears among bees sold. We suggest that prospective buyers ask for certificate of inspection as a matter of precaution.

Caucasian package Bees and Queens. Spring Delivery, 2 lb. pkg. $5.00; 3 lb. pkg. $6.00. Untested Queens, $1.40 each. Lewis & Tillery Bee Co., Greenville, Ala.

MILLER & EVANS—Booking package bees for spring delivery. Write. Caucasians. Miller and Evans, Three Rivers, Texas.

BREWER'S LINE - BRED CAUCASIAN QUEENS—Book your order for April delivery now. Write for prices and terms. No package bees. Brewer Brothers Apiaries, 3217-R Hawthorne Road, Tampa 6, Florida.

THANKS for 1946's business; booking 1947 queens at 1946 prices. Lange Apiaries, Llano, Texas.

THREE-BANDED Italian Queens and Bees for 1947. 2 lb. packages with queen, 1-24, $4.50; 25-100, $4.25. Extra bees, $1.35 and $1.30 per lb. Extra Queens, 1-24, $1.40; 24-99, $1.30; 100-up, $1.20. Cottage Hill Apiaries, Rt. 2, Mobile, Alabama.

"NO RAISE IN PRICES", 3-lb. pkg. with queen, $5.00. Italians only. Delivery during April. J. E. WING & SONS, Knights Landing, Calif.

STRINGER BROS. Apiaries for three banded Italian queen bees. Ten or under, $1.40 each; 100 or over, $1.25 each. Stringer Bros. Apiaries, Vinegar Bend, Alabama.

PACKAGE BEES—Three pounds of bees with queen, $5.75. Caucasian or Italian queens, $1.40. John M. Brose, P. O. Box 36, Felton, Calif.

FOR SALE—Gentle certified Italian bees, three pound package with queen, $4.50; less queen, $3.50; net FOB after May fifteenth. Fancy Tupelo gallberry chunk comb honey, six five pound square glass jars to case, ready June first. A. V. Dowling, Valdosta, Georgia.

BEES ITALIAN KNIGHT stock, 10-frame Root hives, $10.00 each. Certificate of inspection furnished. C. A. Sherred, R. 7, Meadville Pa.

## WANTED TO BUY

WANTED—Small extractor. Root preferred. Clarence Rice, Walcott, Iowa.

WANTED—Good Brand Senior capping melter. E. E. Salge, Weslaco, Texas.

BEES WANTED—75 or 100 colonies of bees in April or possibly early in May. Fred Russell, Chelmsford, Mass.

WANTED TO BUY—from 50 to 200 single story hives in Georgia, Florida, or California. Elmer Reinert, Tracy, Minnesota.

WANTED — Large established apiary, Standard equipment. Location, Wisconsin preferred. Box 247, Gleanings, Medina, O.

WANTED — Bees and equipment. E. E. Rank, 6061 S. LaSalle St., Chicago 21, Ill.

WANTED TO BUY—Root two-frame reversible extractor in good condition. State price crated and shipped. John F. Love, Sidney, Illinois.

## SUPPLIES

BUY YOUR POLLEN SUBSTITUTE REQUIREMENTS NOW. We have hard-to-get Dried Brewers Yeast at 35c per lb.; 100-lb. bags, $29.50. Soybean Flour, 15c per lb.; 100-lb. bags, $8.95. F. O. B. Minneapolis. Free instructions for using included with your order. HONEY SALES COMPANY, 1806-08 No. Washington Ave., Minneapolis 11, Minn.

## POSITION WANTED

WANTED POSITION as manager, experienced beeman knows package and queen rearing. Write full information. Box 300, care Gleanings in Bee Culture, Medina, Ohio.

## HELP WANTED

WANTED—Helper for my Minnesota apiaries. State age, experience, and wages expected. E. E. Salge, Weslaco, Texas.

WANTED — Experienced queen yard man. Year around employment in yards and shop. We can furnish a good modern home to live in. Give full information, age, experience, and salary expected in first letter. H. C. Short, Fitzpatrick, Ala.

WANTED—Helpers in our apiaries at Sylvester and Apalachicola, Georgia. Hyland Apiaries, West Elkton, Ohio.

WANTED—Experienced queen and package bee men for our apiaries. Only honest reliable men considered, no boozers. Give full information, age, experience, reference and salary expected in first letter. Good opportunity for right parties. YORK BEE COMPANY, JESUP, GEORGIA.

WANTED—Capable bee man for extracted honey production. Opportunity for veteran. Country man preferred. Season, April 1-Nov. 15. Board, room furnished. Give full particulars. Lavern Depew, Auburn, New York.

GOOD OPPORTUNITY for first class bee man in a modern California apiary. Able to assist in managing 1500 colony outfit in honey and package bee production. House furnished. State qualifications and wages expected. Also need two experienced or inexperienced helpers. F. E. Morrison, Rt. 2, Auburn, Calif.


**Hall Apiaries**

**Italian Bees and Queens**

| | Queens | 2 lb. pkg. | 3 lb. pkg. |
|---|---|---|---|
| 1-24 | $1.40 | $4.50 | $5.85 |
| 25-99 | 1.30 | 4.25 | 5.55 |
| 100 up | 1.20 | 4.00 | 5.25 |

**Shipping date beginning April 1.**

**P. O. Box 415, Prichard, Ala.**

**Queens of the Golden West**
Buy Western-bred queens and package bees for best results. We are now booking orders for spring 1947.
**CLIFTON APIARIES**
**Oroville, Box 684, California**

**Italian**
**Packages and Queens**
**High quality at fair prices**
**Write for open shipping dates**
**Rapides Apiaries**
**Winnfield, La.**

**Italians**
**Bees and Queens for 1947**
Dark three-banded strain that are good producers

| | |
|---|---|
| 2 lb. pkg. with queen | $3.85 |
| 3 lb. pkg. with queen | 4.85 |
| Extra queens | 1.10 |

$1.00 deposit required on each package booked.
**A. M. Peach, Baldwyn, Miss.**

**HOLLOPETER'S**
Hardy, hustling, honey-gathering Italian queens, Northern bred from selected stock.
**Shipping season, May 20-November 20**
**White Pine Bee Farms, Rockton, Pa.**

**Now booking orders for 1947**
**Leather Colored Italian Queens and Package Bees**
Write for Prices
**Lynn Williams**
Rt. 3 Oroville, Calif.

**Italian Bees and Queens for 1947**

| | |
|---|---|
| 2-lb. pkg. with queen | $3.85 |
| 3-lb. pkg. with queen | 4.85 |
| Queen | 1.15 |

Health certificate with each shipment and live delivery guarantee.

**Bayou Bee Company**
Rt. 1, Box 49, Montegut, La.

---

**Italian Bees and Queens**

We are booking orders for Spring 1947. Only 20% with order; balance 10 days before shipping date.

Prices as follows:

| | |
|---|---|
| 2 lb. package with queen .... | $4.00 |
| 3 lb. package with queen .... | 5.00 |
| 4 lb. package with queen .... | 6.00 |

**The Star Bee Farm**
Hessmer, La.

---

**GASPARD'S**

**Quality Queens and Package Bees**

We are now booking orders for spring 1947 delivery. Only 20% with order, balance 10 days before shipping time. We guarantee live arrival and health certificate accompanies each shipment. Prices as follows:

| | 1-49 | 50-up |
|---|---|---|
| 2 lb. pkg. with queen, | $4.25 | $4.00 |
| 3 lb. pkg. with queen, | 5.25 | 5.00 |
| 4 lb. pkg. with queen, | 6.25 | 6.00 |
| 5 lb. pkg. with queen, | 7.25 | 7.00 |

Queens $1.25 each.

**Gaspard Bee Co., Hessmer, La.**

---

**Package Bees for 1947**

2-lb. package with queen, $4.00 ea.
3-lb. package with queen, 5.00 ea.
4-lb. package with queen, 6.00 ea.

Queenless package, deduct $1.00 from above price. 20% down books order.

**Hessmer Bee Farm**
Hessmer, La.

---

**New Round Metal Hive**, built as the bees would have it built. Frames 10 inches diameter, 30 frames to hive, no supers required, easy to handle hive and control swarming, maximum production assured. Asbestos lined, complete with foundation, price, $15.00.

**A. H. Schmidt**
White Bear Lake, Minn. R. 8.

---

**Protect your future. Buy your extra Savings Bonds now.**

---

WANTED—Two men to work in our apiaries. Opportunity for advancement. Schultz Honey Farms, Ripon, Wisconsin.

---

WANTED—Experienced beeman or veteran to work in large apiary. Chance for advancement. C. H. Schader, Sunnyside, Wash.

---

HELP WANTED — Can use one more helper in large bee business; also a second one in June. Good wages. M. E. Ballard, Roxbury, N. Y.

---

WANTED—Two men to help in our 700 colony outfit, one experienced in commercial honey production, one with some experience with bees. From first of March to first of November at least—maybe longer. Give full information, age, experience, and salary expected in first letter. Archie H. Kauffman, Rt. 3, St. Johns, Mich.

---

I HAVE AN OPPORTUNITY and future for a capable young beekeeper. M. P. Traphagen, Hunter, N. Y.

---

APIARY INSPECTORS. Seasonal work from April to October, $6.96 a day plus expenses. Automobile required. Inquire Michigan Civil Service Commission, 310 North Grand Avenue, Lansing Michigan.

---

WANTED—Helpers in our package bee apiaries at Sylvester, Ga. Also man capable of driving trucks long distance, moving bees, lumber, etc. Also man with some experience operating wood working machinery at our West Elkton, Ohio factory. Hyland Apiaries, West Elkton, Ohio.

---

WANTED—Two experienced young men to work in our apiaries. Year around work to right man. Soder Apiaries, Stratford, Iowa.

---

WANTED—Capable bee man. Year around work. Give qualifications fully. Write Box 762, Lynchburg, Va.

---

WANTED—Beekeeper with some experience. Opportunity for permanent position. C. C. Elmquist, 405-4th St. So., Moorhead, Minn.

---

## SEEDS

SEND POSTAL FOR NEW ILLUSTRATED circular on bluevine and other honey plants. Insecticides for wax moth control—other beekeeper items. Tritox Chemical Company, Washington, Indiana.

---

UTILIZE waste land for bee pasture. Purple Loosetrife grows wild on wet land. One ounce, 20,000 seeds, $1.00; ¼ pound, $3.00; pound, $8.00. Golden Honey Plant, ½ pound, $2.50. Lespedeza Bicolor, ½ pound, $1.50. Postpaid. Circular free. Pellett Gardens, Atlantic, Iowa.

---

A NEW CLOVER, trifolium ambiguum, increases rapidly by deep rhizomous roots. Long lived, good honey plant. Seed not yet available. Root divisions, 25 for $2.00; 100, $5.00; 250, $10.00. Postpaid. Circular free. Pellett Gardens, Atlantic, Iowa.

---

FOR SALE—BASSWOOD TREES foot to ten foot tall. Send postal for our descriptive circular on nectar and pollen bearing shrubs, trees, and perennials. Plant for permanent nectar and pollen; and continuous over the lull of the season when your bees need it most. NICOLLET COUNTY NURSERY, St. Peter, Minn.

---

ANISE-HYSSOP seed, packet 25c; ½ ounce, $1.10; (1 lb. $32.00—should plant one acre.) Write for our circular on nectar and pollen producing shrubs, trees, and perennials. Nicollet County Nursery. St. Peter, Minn.

**RAISE YOUR OWN** trees and shrubs from seed for shade and windbreak. Write for prices and information. Woodlot Seed Co., Norway, Michigan.

HIGH TESTING ALFALFA $20.40; Grimm $24.90; Red clover, high quality (contains some timothy), $19.90; Alsike $25.20; Sweet Clover, Scarified $8.25; Unhulled, $4.20; New Timothy $3.75; Alsike and Timothy $6.40; Certified Brome $3.75; Korean Lespedeza $2.50; many other values. All per bushel, triple recleaned. Hybrid Corn $4.25. Guaranteed satisfactory. Free samples—Catalog. Charles Sinn, Box 482, Clarinda, Iowa.

PURDUE HYBRID POPCORN SEED, also popping corn. Atomic Seed Company, Rock Port, Mo.

ANISE HYSSOP SEED, Packet, 25c; ½ ounce, $1.10. James Beecken, Route 1, Elgin, Ill.

HARDY ALFALFA U. S. GROWN, $22.30 per bushel; Grim $24.50; Red Clover (25% Timothy) $20.00; Scarified Sweet Clover $8.30; New Timothy $3.50; Timothy and Clover mixed $6.75; New Fancy Brome $3.70, Korean Lespedeza $2.60; Hybrid Sweet Corn, tested, $4.25. Our seeds recleaned, tested. Guaranteed satisfactory and sold subject your 60-day test. Write for Free Samples and 1947 Catalog. Hurry, scarcities exist. AMERICAN FIELD SEED CO., Dept. 382, Chicago, Illinois.

## TURKEYS

RAISE TURKEYS THE NEW WAY. Write for Free Information explaining how to make up to $3,000.00 in your own backyard. Address: National Turkey Institute, Dept. 253, Columbus, Kansas.

## MISCELLANEOUS

WANTED TO TRADE ten frame rims, bottoms, etc., for eights; and sell 4-frame non-reversible extractor and tanks, etc., for 200 colony outfit. Earnest Galloway, Bancroft, Idaho.

ANDERPOLL, a bee pollen substitute which contains ingredients recommended by leading authorities, plus minerals and vitamins. Free circular. Bruce Anderson, Chatham, Va.

## SUPPLIES

Here's what you have been waiting for. **THE NO. 10 ELECTRIC UNCAPPING KNIFE.** The best knife on the market. Uses either A.C. or D.C. 110-volt current. Blade, 10 in. long, 2⅛ in. wide, ⅛ in. thick. High carbon knife steel. High and low heat. Faster than most steam knives. Order two, have a spare. Satisfaction guaranteed. Price, $13.50 postpaid. **HONEY SALES COMPANY,** 1806-08 No. Washington Ave., Minneapolis 11, Minn.

## MAGAZINES

THE BEE WORLD—The leading journal in Great Britain and the only international bee review in existence. Specializes in the world's news in both science and practice of apiculture. Specimen copy post free. 12 cents stamps. Membership in the Club including subscription to the paper, 10/6. The Apis Club, L. Illingsworth, The Way's End, Foxton, Royston, Herts, England.

THE INDIAN BEE JOURNAL—The only bee journal in India. Sample copy against 25 cents (or 1s 6d.) postage stamp. Yearly, 7s' 6d, ($1.50) International Money Order. Apply Bhupen Apiaries (Himalayas), Ramgarh, Dist., Naini Tal. U. P. India.

WESTERN CANADA BEEKEEPER—official organ of the Manitoba Beekeepers' Association. One year, $1.00; in combination with one year's subscription to Gleanings in Bee Culture, $2.25. Wallingford Building, Winnipeg, Canada.

Read the South African Bee Journal to be conversant with conditions from far afield. Subscription 5/ per year. For further particulars, write to the Hon. Treasurer, E. E. A. Leach, Box 57, East Rand P. O., Transvaal, South Africa.

INTERESTED in Angora Goats? Read the Sheep and Goat Raiser, Hotel Cactus, San Angelo, Texas, the only ranch magazine published serving the Angora Goat industry. Subscription—$1.50, Sample copy fifteen cents.


**1947 Italian Package Bees and Queens**

Bred over a period of years for large honey crops, and ease of handling.

State Health Certificate with each package or queen. No drones—Prompt Shipment—Safe Arrival—Satisfaction Guaranteed.

| | 1-9 | 10-49 | 50-99 | 100 up |
|---|---|---|---|---|
| 2 lb. w. q. | $4.50 | $4.25 | $4.15 | $4.00 |
| 3 lb. w. q. | 5.65 | 5.40 | 5.30 | 5.15 |
| 4 lb. w. q. | 6.80 | 6.55 | 6.45 | 6.30 |

Extra Queens—$1.45

**R. B. Herier Co.**
**Valdosta, Ga., U. S. A.**

**Italian Bees and Queens**

2 lb. with queen ..... $4.00
3 lb. with queen ..... 5.00
4 lb. with queen ..... 6.00

Certificate of inspection and safe delivery guaranteed.

**Clover Bee Farms**
Hessmer, La.

## Who Can Offer You DR Stock Raised with the Following Methods Employed?

1. Improved stock through yearly scientific selection for resistance to AFB.
2. Superior methods employed in rearing and mating daughter queens.
3. Stock constantly checked under official supervision for performance.

If such stock means anything to you for honey production place your order IMMEDIATELY as desirable shipping dates may not be available.

| | Pkgs. with DR queens | | |
|---|---|---|---|
| | Queens | 2 lbs. | 3 lbs. |
| 1 to 9 | $1.65 | $5.20 | $6.20 |
| 10 to 49 | 1.50 | 5.00 | 6.00 |
| 50 to 99 | 1.40 | 4.75 | 5.85 |
| 100 and up | 1.35 | 4.65 | 5.75 |

Send in your order immediately with 10% down payment attached.

**IOWA BEEKEEPERS' ASSN.**
State House Des Moines, Iowa


## ANNOTATIONS

(Continued from page 78)

similarly efficient and yet not objectionable from the commercial point of view, since the chlorine will ultimately evaporate, if at all absorbed by the honey, in the same way as its evaporation from uncovered sterilized water.

Jamaica 5, N. Y.


**BEE WISE - READ**

**The Beekeepers' Magazine**

If you haven't seen my independent publication, just drop me a postal card and I'll mail you a free sample copy.

**ELMER CARROLL — Publisher**
Rt. 5 Box 181 Lansing, Mich.

**Olsen Apiaries**
**Package Bees — Queens**
Prices are right
Order yours now
Box 61 Shasta Co.
**Cottonwood, California**

**POLLEN SUBSTITUTES**

| | 1 lb. | 5 lb. | 10 lb. | 25 lb. |
|---|---|---|---|---|
| Brewer's yeast and soy flour expeller mixed 1 to 6 | | $0.75 | $1,50 | $3.00 |
| Brewer's yeast | $0.40 | 1.50 | 2.75 | 5.50 |
| Soyflour | | | 1.40 | 2.50 |
| Dry skim milk | 0.40 | 1.50 | 2.75 | 5.75 |

Write for prices in larger quantities. Include postage if you wish it by parcel post. All prices collect. Bainbridge, N. Y.

**M. Y. S. Company, Bainbridge, New York.**

## Leather Italian Queens and Package Bees

**For good results place your requirements now with us. Many desirable dates still open. In our 10 years of queen breeding we have developed a gentle but hardy Italian strain.**

**Prices from latter March to June 1st, 1947:**

| | Queens | 2-lb. | 3-lb. | 5-lb. |
|---|---|---|---|---|
| 1-24 | $1.40 | $4.50 | $5.85 | $8.55 |
| 25-99 | 1.30 | 4.25 | 5.55 | 8.15 |
| 100-up | 1.20 | 4.00 | 5.25 | 7.25 |

**Evangeline Bee Company — Breaux Bridge, La.**

# Announcement

**Babcock Honey Company has just completed a new beehive factory.**

**This new plant, located in the heart of the white pine and cypress timber regions, is now in full production to give you QUALITY beehives that will match any on the market at any price.**

Only Babcock offers you hives made with everlasting Cypress bottom boards, bodies of Cypress or high quality soft beehive pine, and telescoping covers complete with pure aluminum metal covering. These are truly everlasting hives with years of service built into every part. Completely dovetailed, this perfect fitting equipment is well worth the slight additional cost and will pay for itself many times. All hives are supplied with divided bottom bar standard frames unless otherwise specified.

Orders are now being accepted for only the following items, therefore we would appreciate your not asking us to quote prices on anything else.

Beehives, complete as above, and without inner covers.
Shipped only in multiples of five, ten, etc.

| | |
|---|---|
| Furnished in 10-frame size only— FIVE COMPLETE HIVES | $28.75 |
| COVERS ONLY, complete with aluminum covering, five for | 7.75 |
| Bottom Boards, made of 100% pure Cypress or white pine, five for | 5.25 |

We cannot accept orders for extra frames or supers at this time. Watch this space for later information on these items.

Orders for complete hives, covers only, or bottom boards will be filled in order received.

## BABCOCK HONEY COMPANY

803 Sumter Street — Columbia, S. C.

Telegraph: Western Union — Telephone: 41621

**LEATHER COLORED ITALIAN QUEENS**
**MIDDLE TENNESSEE APIARIES**
1 to 25, $1.25; 26 and up, $1.10—From Imported Strains.
¼ books orders. Balance before shipping. All queens clipped and by air mail at no extra cost. (All Queens after June 15, $1.00)
**J. B. TATE & SON**
1209 No. 4th St., Nashville 7, Tenn. Tel. No. 34509M

**Our 1947 Spring Prices**
In view of increased operating costs, we have revised our price schedule as follows:

| Quantity | Queen | 2 lb. pkg. | 3 lb. pkg. |
|---|---|---|---|
| 1-24 | $1.40 | $4.50 | $5.85 |
| 25-99 | 1.30 | 4.25 | 5.55 |
| 100-up | 1.20 | 4.00 | 5.25 |

**BESSONET BEE COMPANY**
Donaldsonville, La.

# ITALIAN QUEENS

**Productive** **Vigorous**
20% books order. 1-24, $1.40; 25-99, $1.30; 100-up, $1.20.
**J. WILLARD REED**
1750 SANTA FE CORPUS CHRISTI, TEXAS

**QUALITY ITALIAN PACKAGE BEES AND QUEENS for 1947**

| Quantity | 1-2 | 3-29 | 30-98 | 99 & over |
|---|---|---|---|---|
| 2 lb. package and queen | $4.50 | $4.30 | $4.15 | $4.00 |
| 3 lb. package and queen | 5.50 | 5.30 | 5.15 | 5.00 |
| Queen only | 1.50 | 1.40 | 1.30 | 1.25 |

For queenless packages. deduct price of queen. Packages F. O. B. Queens postpaid.
Deposit, $1.00 per package at booking, remainder due prior to shipping.
**GIRARDEAU APIARIES**
Tifton, Georgia J. H.Girardeau, Jr., Mgr.

**BETTER BRED QUEENS THREE BAND ITALIANS**
We thank our many customers for their patronage this season.
We are now booking orders for 1947
**CALVERT APIARIES — Calvert, Alabama**

**Italian Bees and Queens for 1947**
**Hardy — High producing — Gentle**
2 lb. pkg. with young laying queen ..... $4.00
3 lb. pkg. with young laying queen ..... 5.00
Queens ..... 1.25
**B. J. Bordelon Apiaries, Moreauville, La.**

# PACKAGE BEES QUEENS

## ITALIANS and CAUCASIANS

The demand for bees is again very heavy. We are doing our best to handle our regular customers' orders, and any additional ones that we can work in. However, a lot of dates are already full, so we advise getting your order in as soon as possible. You may rest assured that we will work in every one that we can.

**We Offer You:**

**Good Bees, Good Queens, Good Business Dealing.**

**1947 Prices**

| Lots of: | Queens | 2 lb. | 3 lb. | 4 lb. | 5 lb. |
|---|---|---|---|---|---|
| 1-24 | $1.40 | $4.50 | $5.85 | $7.20 | $8.55 |
| 25-99 | 1.30 | 4.25 | 5.55 | 6.85 | 8.15 |
| 100-up | 1.20 | 4.00 | 5.25 | 6.50 | 7.75 |

**For queenless package deduct price of queen.**

## The Stover Apiaries

**Mayhew, Mississippi**

---

**SUNKIST** **Packages** **ITALIAN**

**Queens**

**EARLY SPECIAL OFFERING:** Weather permitting, we will take orders for packages starting March 15. Queens about March 5-10. Sorry—no more packages in April. We have openings after May 15.

**Prices until June 1, 1947:**

| | 1-24 | 25-up |
|---|---|---|
| 2-lb. with queen | $4.25 | $4.00 |
| 3-lb. with queen | 5.25 | 5.00 |
| Queens | 1.25 | 1.15 |

**NOTICE —CHANGE OF ADDRESS**

**Sunkist Bee Company, Convent, La.—Telephone 101W.**

---

## Three Band Italian
## PACKAGE BEES

Full weight, prompt shipment, young bees. State Health Certificate with each shipment. Live arrival guaranteed. Replacement or refund promptly made upon receipt of bad order from your express agent.

**Our prices until June 10, 1947 in U. S. Funds.**

| | Each | With Queens | | | |
|---|---|---|---|---|---|
| | Queens | 2 lb. | 3-lb. | 4-lb. | 5-lb. |
| 1-29 | $1.10 | $4.00 | $5.10 | $6.20 | $7.30 |
| 30 or more | | 3.50 | 4.50 | 5.50 | 6.50 |

**For queenless Packages deduct $1.10 each from above prices. If queens are wanted introduced, add $1.10 to the price of each package.**

## Jackson Apiaries

**Funston, Ga., U. S. A.**

## PLANT'S
### 3-Banded Italians

Our queens are rigidly culled and reared from only the highest producing gentle stock. Packages are full weight, young bees in new light weight cages. No disease has ever been found in any of our queen or package yards.

| | 1-24 | 25-99 | 100-up |
|---|---|---|---|
| 2-lb. pkg. | $4.50 | $4.25 | $4.00 |
| 3-lb. pkg. | 5.75 | 5.50 | 5.25 |

**Queens, $1.25 each, any number**

Above prices include young laying queens and are F. O. B. shipping point. Queens are postpaid. $1.00 per package with order. balance 10 days or more prior to shipping date.

**W. E. PLANT**
**Rt. 2 Hattiesburg, Miss.**

## Whittle's
**Leather colored Italians**

Book your order now for 1947

**1947 Packages with Queen**

| | 2 lbs. | 3 lbs. | 4 lbs. |
|---|---|---|---|
| 1-24 | $4.50 | $5.85 | $7.20 |
| 24-99 | 4.25 | 5.55 | 6.85 |
| 100-up | 4.00 | 5.25 | 6.50 |

**Our bees and service will please you**

**G. E. Whittle**
**Greenville, Alabama**

## CARNIOLANS
## CAUCASIANS

Gentle, prolific, good winterers, build up rapidly during Spring. We will offer a limited number of 2-lb. and 3-lb. packages with queens, 8-fr. and 10-fr. colonies in the spring. Queens of both races in season.

**Albert G. Hann, Glen Gardner, N. J.**

**Now Booking Orders for Package Bees and Queens for 1947**
**Italian and Caucasian Queens**
Write for Prices
**R. E. LaBarre**
Box 172 Shasta Co.
**Cottonwood, California**

**400 to 800 Nuclei**

Two or 3 frame. Delivery after April 15th. You bring your equipment, we place nuclei in your hives here, you take them home with you. **Write for particulars.**

**Jackson Apiaries**
**Box 813 Cameron, Texas**

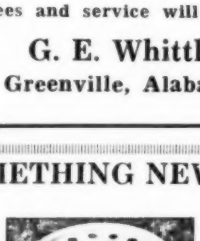
**Bennett Bee Farms**
**Italian Bees and Queens**
**Our prices for 1947:**

| Quantity | Queens | 2 lb. pkg. | 3 lb. pkg. |
|---|---|---|---|
| 1-24 | $1.40 | $4.50 | $5.85 |
| 25-99 | 1.30 | 4.25 | 5.55 |
| 100-up | 1.20 | 4.00 | 5.25 |

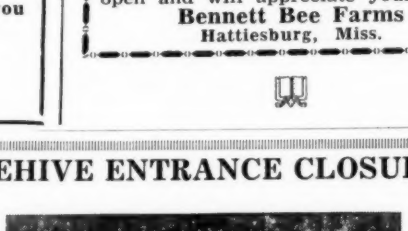
We have some good shipping dates open and will appreciate your order.

**Bennett Bee Farms**
**Hattiesburg, Miss.**

## SOMETHING NEW! BEEHIVE ENTRANCE CLOSURES



**UPPER CLOSURE**



**LOWER CLOSURE**

Useful labor saving devices to simplify your beekeeping. Featuring ease of operation, semi-automatic locking action and durability of construction.

**Upper closure ..... $0.80**
**Lower closure ..... 1.30**

**Write for free descriptive literature and quantity discounts.**

**VOHO PRODUCTS, R. F. D. No. 2, Ogdensburg, N. Y.**

Above photo shows a portion of one of our queen yards containing over 6000 nuclei

## Italian Bees and Young Queens

**20,000 packages and 40,000 queens will be ready for shipment to you during April and May. Place your order early.**

| Prices: | With Quantity Discounts | | | |
|---|---|---|---|---|
| | 1 to 9 | 10 to 49 | 50 to 99 | 100 and up |
| 2 lb. pkg. with queen (each) | $4.50 | $4.25 | $4.15 | $4.00 |
| 3 lb. pkg. with queen (each) | 5.65 | 5.40 | 5.30 | 5.15 |
| 4 lb. pkg. with queen (each) | 6.80 | 6.55 | 6.45 | 6.30 |
| Queens (each) | $1.35 | Tested | $2.00 | |

**We Solicit Large Orders**

## Overbey Apiaries, Bunkie, La.

### BOTTOM BOARD COVER EFFECTS A SAVING

(Continued from page 69)

further items of interest. First, the shallow super is a thing I like well. Its shallow frames can be very quickly uncapped by resting the knife against top and bottom bar at the same time. It is light to lift. It produces either extracted or 4 x 5 comb when fitted with fence separators and section holders that cover all four sides of each section. Many of our colonies are composed exclusively of shallow supers. though this is a year they have remained empty the first year in six that it has happened.

Secondly, the end of this shallow super with its likely-to split rabbet is new white pine lumber. The side is old, and is made from a cedar board in a single packing case. Supers are better property than wooden packing cases since a tar paper wrap and upper entrances through it seem to pull more bees through the winter.

I would be glad to have our editor's or any of our readers' comments on this point. For wintering singly with a tar paper wrap only, would it be satisfactory to place on top of the hive a bottom board 20" long with recess down, entrance reduced to ¼ x ½" and used as top entrance?

Niagara Falls, Ontario.

[We have thought of this possibility for a top winter entrance and can see no good reason why it will not work. Mr.Braun at Brandon, Manitoba Experimental Station. is using an inverted inner cover with small opening in front, with regular telescope outer cover on top, pushed forward to permit bees to get out and in.—Ed.]

## Bees and Queens

Here we are, folks, back on the job ready to take your order, large or small for our light 3-banded Italian bees and queens. Live delivery, health certificate, and prompt service guaranteed. Young select untested queen in each package.

| | 2 lb. pkg. | 3 lb. pkg. |
|---|---|---|
| 1 to 24 | $4.50 | $5.85 |
| 25 to 49 | 4.25 | 5.50 |
| 50 or more | 4.00 | 5.20 |

10% to reserve shipping date.

**Plauche Bee Farm**
Hamburg, La.

# 10,000 PACKAGES

## ITALIAN BEES WITH QUEENS

**While they last. Booking is heavy.**

## 5,000 Extra Queens

| | |
|---|---|
| 3 lb. Packages with Queens | $5.00 |
| 2 lb. Packages with Queens | 4.00 |
| Extra Queens | 1.25 |

## We Serve to Serve Again

## SUNNY SOUTH APIARIES

**Marksville, La.** **I. Clark, Prop.**

## PUETT'S PACKAGE BEES & QUEENS

Proven best by test over a period of 25 years. You can easily wait too late. When our full capacity is reached we cannot accept further orders. Send $1.00 per package deposit.

**Package Bees with Queens**

| Quan. | 2 lb. | 3 lb. | 4 lb. |
|---|---|---|---|
| 1 to 9 | $4.50 | $5.65 | $6 80 |
| 12 to 48 | 4.25 | 5.40 | 6.55 |
| 51 to 99 | 4 15 | 5.30 | 6.45 |
| Above | 4.00 | 5.15 | 6.30 |

**For Loose-Queen type add $1.00 per package. For queenless packages deduct $1.25.**

## The Puett Company

**Hahira, Ga.**

## PACKAGE BEES AND QUEENS

**Leather Colored Italians Bred for Production**

**Prices of Package Bees and Queens**

| Lots of | 2 lb. | 3 lb. | Ex. Queen |
|---|---|---|---|
| 1 to 24 | $4.00 | $5.00 | $1.25 |
| 25 to 99 | 3.85 | 4.80 | 1.10 |
| 100 or more | 3.75 | 4.70 | 1.10 |

Terms: 25% deposit to book order, balance ten days before shipping date. We replace any bees that die in transit if it is our fault. If it is the carriers' fault, file claim with them. We start shipping February 1. Old customers will be given preference.

## The Island Apiary

**Collier City, Fla.**

## A WORD OF CAUTION ON USE OF SULFATHIAZOLE

(Continued from page 75)

honey. Sulfathiazole at any level is an unnatural and added ingredient of honey. Do we run the risk of opening wide the gates to disease—to undoing the work of apiary inspection in keeping disease under control—all because of premature enthusiasm?

Certainly we are not antagonistic to a simple, cheap, and safe cure for AFB. We are only asking and seeking for the proof that any scientist or medical man must have before he makes final recommendations.

The Department of Agriculture is carrying on research with sulfathiazole and other drugs but will refrain from making recommendations until definite results are obtained on how such medicants can be safely and economically applied in apiary management.


**QUEENS - - - QUEENS**

Three Band Italians, the best that can be raised. We specialize in raising queens of good quality. A health certificate is sent with every order.

**Satisfaction Guaranteed**

**1 to 25 .... $1.25 each**
**25 to 50 .. 1.20 each**
**50 up .. 1.15 each**

**Alamance Bee Company**
**Geo. E. Curtis, Mgr.**
**Graham, N. Carolina**

**THE JOHN M. DAVIS STRAIN**
**ITALIAN QUEENS**
**BRED THE DAVIS WAY**
**Guaranteed to please**

**Untested ..... $1.25 each**
**Tested ..... 2.00 each**
**After June 30th, 1.00 each**
**Untested only**
Cash with order

**Little's Apiaries**
P. O. Box 122
**Shelbyville, Tennessee**
**Where Quality Reigns**

**JENSEN'S**

**"Magnolia State" Italian Package Bees and Queens**

Bred to a high standard in Production, Gentleness, and Hardiness. When you get our stock you get more than just bees and queens. Thirty-two years commercial experience, plus a conscientious endeavor to improve all the good qualities of our strain of bees through the use of better equipment, latest approved methods, and breeding technique, have combined to make our package bees and queens of outstanding quality.

**Can accept a few more orders for late May and June.**

**Prices:**

| | 1-24 | 25-99 | 100-up |
|---|---|---|---|
| **2 lb. pkg. w/q.** | **$4.50** | **$4.25** | **$4.00** |
| **3 lb. pkg. w/q.** | **5.85** | **5.35** | **5.25** |
| **Queens** | **1.40** | **1.30** | **1.20** |

**Jensen's Apiaries**
**Macon, Miss.**

ARE you in line to produce a crop of honey in 1947?
HAVE you ordered and had accepted the number of

**PACKAGE BEES**

you will need?
WILL you receive your bees at the time you need them to produce the most surplus?
These questions are important to you so do not delay longer. We stand ready and qualified to fulfill our part.
DATES are rapidly being filled to capacity. Delay will only decrease the number of open dates.
WE WILL NOT accept more orders for any day's shipment than can reasonably be filled.
REMEMBER we deliver Quality young bees with only young queens that are productive.

**2 lb. with queen $4.30 each**
**3 lb. with queen 5.50 each**
**"They Produce"**

**ROSSMAN & LONG**
**P. O. Box 133 Moultrie, Ga.**

# TANQUARY HONEY FARMS, INC.

## Italian Bees and Queens

None but young worker bees with 1947 select young laying queens. Prompt and efficient service. Health certificate with each package.

We are almost completely booked up until May 10th. Let us know your needs; we will do the best we can for you.

**PRICE LIST UNTIL JUNE 1st.**

| | 1 to 5 | 6 to 49 | 50 to 99 | 100 up |
|---|---|---|---|---|
| 2 lb. pkg. bees with queen | $4.50 | $4.35 | $4.20 | $4.00 |
| 3 lb. pkg. bees with queen | 5.50 | 5.35 | 5.20 | 5.00 |
| 4 lb. pkg. bees with queen | 6.50 | 6.35 | 6.20 | 6.00 |
| 5 lb. pkg. bees with queen | 7.40 | 7.25 | 7.10 | 7.00 |
| Queen | 1.45 | 1.40 | 1.35 | 1.30 |
| Tested Queen | 2.30 | 2.20 | 2.10 | 2.00 |

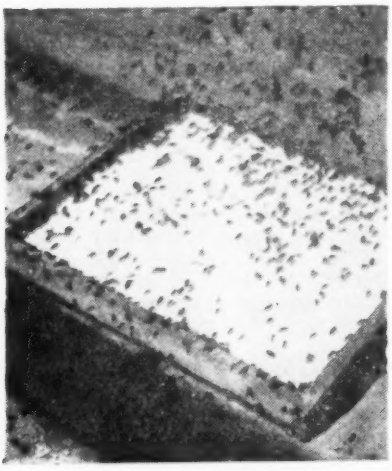
**PRICE LIST AFTER JUNE 1st.**

| | | | | |
|---|---|---|---|---|
| 2 lb. pkg. bees with queen | $4.25 | $4.10 | $3.95 | $3.75 |
| 3 lb. pkg. bees with queen | 5.25 | 5.10 | 4.95 | 4.75 |
| 4 lb. pkg. bees with queen | 6.25 | 6.10 | 5.95 | 5.75 |
| 5 lb. pkg. bees with queen | 7.20 | 7.00 | 6.85 | 6.75 |
| Queen | 1.30 | 1.25 | 1.10 | 1.00 |
| Tested Queen | 2.15 | 2.00 | 1.95 | 1.80 |

**Queenless Packages, deduct $1.15 per package.**

**Queens Postpaid — Package bees F. O. B.**

**Tanquary Honey Farms, Inc., Lena, S. C.**



Picture taken March 2, 1946 at Crawfordsville, Indiana, by Harry Starnes, showing bees wildly working on dry pollen substitute.

# Pollen Substitute

Dry pollen substitute is so easy to feed. One hundred pounds takes only a minute to mix and then simply pour it into a tub or any handy receptacle and place it near your bees in the sunshine and watch them go to work.

Each colony will take about 5 pounds of substitute during the spring and feeding should start late in February north of the Ohio River and earlier farther south. The proper mixture is one part of yeast to 6 parts of soy. Circular with each order.

However, due to slowness of transportation, freght orders should be ordered now.

**25 lb. bag Soy flour, wt. 27 lbs., $2.75**
**100 lb. bag Soy flour, wt. 103 lbs., 7.15**
**5 lb. bag Yeast, wt. 6 lbs., 1.50**
**25 lb. bag Yeast, wt. 27 lbs., 6.00**
**100 lb. bag Yeast, wt. 103 lbs., 20.00**

**All Prices F. O. B. Paducah**

**Walter T. Kelley Company Box 210 Paducah, Ky.**

# YORK'S PACKAGE BEES AND QUEENS

## Quality Bred Italians for 1947

Accepting orders for May and later shipping, booked full for April. Don't get caught napping, good bees will increase your yield per colony. Rush orders now while these later dates are available as demand is increasing and may surpass the supply. Prices in U. S. funds.

### Package Bees With Queens

| | 1 to 2 | 3 to 27 | 30 to 99 | 102 up |
|---|---|---|---|---|
| 2-lb. pkg. | $4.50 | $4.35 | $4.20 | $4.00 |
| 3-lb. pkg. | 5.50 | 5.35 | 5.20 | 5.00 |
| Extra queen | 1.50 | 1.45 | 1.40 | 1.35 |

**Queenless packages, deduct $1.15 per package**

Bees are supplied in neat new cages. Certified bees from our own apiaries, state registered and state inspected. Extra queens by mail and package bees by express only. We recommend 3-lb. size as best all-around size. If convenient, small orders cash, larger orders $1.00 deposit per package to insure order, and the balance not less than two weeks prior to shipping date.

**YORK BEE COMPANY, JESUP, GEORGIA, U. S. A.**

# Northern California

# Package Bees

# and

# Queens

## Geo. E. Smith

**R. 2**

**Yuba City, California**

**Member of the California Bee Breeder's Association**

# ITALIAN QUEENS

**Book Your Order NOW!**

**Deliveries Start**

**First Week in April**

**Live Delivery and**

**Satisfaction Guaranteed**

**Prices:**

| | |
|---|---|
| 1-50 | $1.35 |
| 50-100 | 1.25 |
| Over 100 | 1.15 |

**10% books order—balance 10 days before shipment.**

## Red River Valley Apiaries

**Chicota, Texas**

**Telegraph Address: Paris, Texas**

**Telephone: Paris, Texas 2748-W-3**

**We Recommend**

Root QUALITY BEE SUPPLIES

**For Michigan**

Anticipate your needs for 1947 NOW and order early.

We'll do our best to give you good service on items as they are available.

**We now have a good stock of Honey Containers.**

Write for new price lists of **useful miscellaneous items** not listed in catalog.

**We Want Your Beeswax**

**Paying 46c for dark; 48c for light.**

**M. J. BECK CO.**

**Successor to M. H. Hunt & Son**

510 No. Cedar St. Box 7

**Lansing 1, Michigan**

**Bee Gloves**

*Immediate Delivery!*

**Made from top grain cowhide. Positive protection. Guaranteed Satisfaction or your money refunded.**

**Price per pair $3.75**

**Sizes: Small, Medium and Large**

**APIARY SUPPLY HOUSES WRITE FOR QUANTITY DISCOUNTS ON GLOVES**

**KING * MOORE COMPANY**

**7034 No. Figueroa St., Los Angeles, Cal.**

**SCIENTIFIC BEEKEEPING**

*New* REVOLUTIONARY METHOD

*Send for Valuable Free Bulletin*

THE BEEMASTER

EARTHMASTER PUBLICATIONS

DEPT. 5, BOX 547 · ROSCOE · CALIFORNIA

**GARON'S PACKAGE BEES AND QUEENS**

**Three-Banded Italians and Mraz's Strain Bred for Resistance**

**We have some open dates for packages and queens from May 15th and later. Write us promptly for earliest remaining dates.**

**Discontinuance of our 1945-'46 prices forced by rising prices. Following prices are now effective:**

**Spring 1947**

| | 1 to 9 | 10 to 24 | 25 to 99 | 100 or more |
|---|---|---|---|---|
| 2-lbs. with queen | $4.25 | $4.15 | $4.10 | $4.00 |
| 3-lbs. with queen | 5.30 | 5.20 | 5.15 | 5.00 |
| 4-lbs. with queen | 6.50 | 6.40 | 6.35 | 6.30 |
| Young laying queen | 1.25 | 1.25 | 1.20 | 1.15 |

**(Queens clipped at no extra charges)**

**Dependability, Quality, and Service**

**GARON BEE COMPANY, Tel. 8614, Donaldsonville. La.**

## NOTICE

**Write for prices for having your wax made up or outright purchase of**

**SCHMIDT'S**

**Economy Foundation**

**Not excelled for quality strength and workmanship.**

**Satisfaction Unconditionally Guaranteed**

**Oscar H. Schmidt & Sons**

**R. 4** Bay City, Mich.

## LOTZ SECTIONS

**"The Best Money Can Buy"**

We are now featuring only the Mill Run grade of sections due to the scarcity of basswood lumber.

This grade still maintains the high quality of fine workmanship and accurate dimensions long associated with our product.

**Write for prices**

**August Lotz Co.**

**Manufacturers and Jobbers of Bee Supplies**

**Boyd** **Wisconsin**

**OLDEST BEE JOURNAL IN THE ENGLISH LANGUAGE**

Keep up on markets, practices, scientific data, regulations, and plant possibilities. 1 year—$1.50; 3 years—$3.00 U. S. and Canada. Foreign postage 25c a year extra.

**AMERICAN BEE JOURNAL**
Hamilton, Illinois

**Protect your future. Buy your extra Savings Bonds now.**

Australian Beekeeping News
The Leading Bee Journal of the Southern Hemisphere is the

**"AUSTRALASIAN BEEKEEPER"**

Subscription 5 shillings per year. Start any time. Inquire for International Money Order for 5 shillings (Australian) at your Post Office.

**Write now to the Editor, P. O. Box 20, West Maitland, New South Wales, Australia.**

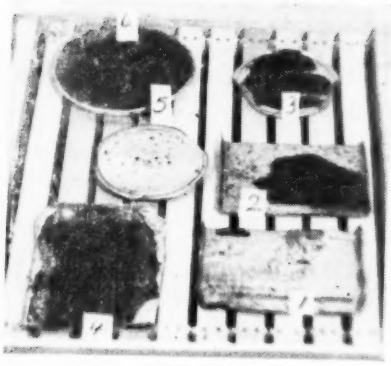
The Hubbard APIARIES

**WRITE FOR FREE CATALOG**

**Quality Bee Supplies** **Factory Prices**
**Prompt Shipment from Stock**
**Satisfaction Guaranteed**

## THE HUBBARD APIARIES

**Manufacturers of Bee Supplies**
**ONSTED, MICHIGAN**



The picture shows an inexpensive way to feed Master Mix Pollen.
No. 1 shows all pollen taken.
No. 5 shows lid inverted in right position for the bees.
No. 6 Bucket lid filled ready to turn over for the bees.

## MASTER MIX POLLEN

### Stands out in the lead.

We tried other mixtures, such as soybean flour and syrup, but the bees took Master Mix first. Made from cottonseed meal, soybean flour, skim milk, brewer's yeast, natural pollen, invert sugar, and sulfathiazole.

We have 165 colonies with electric heaters and by feeding Master Mix and syrup we had brood in from 2 to 4 frames Dec. 15th, while unheated colonies were dormant. Package bees also need pollen and syrup to build up fast. Our electric mill is busy mixing Master Mix Pollen.

**Order at once. 1 No. 10 lb. pail, $2.50**
**6 for $13.50**

### Send for FREE CIRCULARS

We breed three kinds of queens in separate yards. ITALIANS, CAUCASIANS, mated to Italian drones, and Daughters of queens bred for RESISTANCE.

**2 lb. pkg. bees with queen, $5.00**
**3 lb. pkg. bees with queen, 6.25**
**4 lb. pkg. bees with queen 7.50**
**Extra queens, $1.50 each**

Over 30 years a shipper all over U. S. A. and Canada. Sulfathiazole used in feed at no extra cost to you. 10% books your order.

## BLUE BONNET APIARIES, R. 2, Box 23, Weslaco, Texas


## CONTENTS
### February, 1947


Early Spring Increase Pays Off—Clarence Tontz ..... 65-67
A Bottom-Board-Cover Effects a Saving—Arnold Werner ..... 68-69
Useful Home-made "Gadgets"—C. H. Pease ..... 70-71
Greetings from Dr. Rousseau ..... 72-73
February is the Party Month—Mrs. Benj. Nielsen ..... 74
A Word of Caution on the Use of Sulfathiazole—J. I. Hambleton ..... 75
Honey Poisoning—W. Ray Jones M. D. ..... 76-77
Annotations—A. Z. Abushady ..... 78
Live and Learn—Propolis Pete ..... 79
Beekeeping in Palestine—Robert Blum ..... 80-83
Laying Workers and Drone Laying Queens—Allen Latham ..... 84
Two Hundred and Fifty Letters Received and Answered—J. E. Johnson ..... 84-85
Comment on "Panel Heat in the Hive" by M. I. Taylor—E. L. Sechrist ..... 85
Birds Destroying Queens—Chapman Grant ..... 85
Releasing Attendant Bees from Queen Cage—Glenn Gibson ..... 85
Second Glances—C. M. Isaacson ..... 86
80 Years Among the Bees—E. R. Root ..... 87
Tampa Convention—M. J. Deyell ..... 88-89
Talks to Beekeepers—M. J. Deyell ..... 90-91
Asked and Answered ..... 92
Just News ..... 93
Homemaking Chatterbox—Mrs. Harriett M. Grace ..... 94
Siftings ..... 95
Editorials ..... 96-98
From North, East, West, and South ..... 99-106
American Honey Institute News Notes ..... 107
Story of the Illinois Cook-DuPage County Beekeepers' Association—A. G. Gill .. 108-109



Subscription Rates:—United States, Canada, Pan-American countries, and Spain, one year, $1.50; two years for $2.25; three years for $3.00. Single copy, 15 cents. Other countries, 25c per year additional for postage. Discontinuance:—Subscription stopped on expiration. No subscriber will be run into debt by us for this journal. Change of address:—Give your old address as well as the new and write the name to which the journal has heretofore been addressed. Remittance should be made by postoffice money order, bank draft, express money order, or check. Contributions to Gleanings columns solicited; stamps should be enclosed to insure return to author of manuscript if not printed. Advertising Rates: Advertising rates and conditions will be sent on request. Results from advertising in this journal are remarkably satisfactory. Advertisers' Reliability:—While the publishers do not guarantee advertisements in this journal, they use utmost diligence to establish in advance the reliability of every advertiser using space in this journal.

**The A. I. Root Company, Publishers, Medina, Ohio.**
**E. R. Root and M. J. Deyell, Editors; M. W. Hobart, Assistant Editor; H. H. Root, Associate Editor.**